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ABSTRACT

Expenses that health professions students incurred, sources of income to meet those expenditures, and indebtedness incurred by the students during the 1976-77 school year were studied. A questionnaire, which is appended, was mailed to a sample of students registered in schools of dentistry, optometry, osteopathic medicine, pharmacy, podiatry, public health, and veterinary medicine. Based on information provided by the respondents, estimates are made of the relevant sociodemographic characteristics and financial activities of all students registered in these health professions schools. Among the findings are the following: podiatry and osteopathy students reported the highest average annual expenditures of $11,720 and $11,070 respectively, while pharmacy students reported the lowest of $6,740; in each health profession students attending private schools reported average school expenses that were about 150 percent greater than those reported in public schools; married students, especially those with children, reported that they spent more on food, lodging, and other items than did single students; most students financed their education with income obtained from nonrefundable sources; students most frequently reported that they received the largest proportion of their income from their own earnings and savings and from contributions made by their spouses and parents; approximately 40 percent of all health professions students reported that they were in debt prior to entering professional school, and the average debt reported by these was $7,000; and of those students who reported prior indebtedness, most were in debt because of preprofessional school educational expenditures. (SW)

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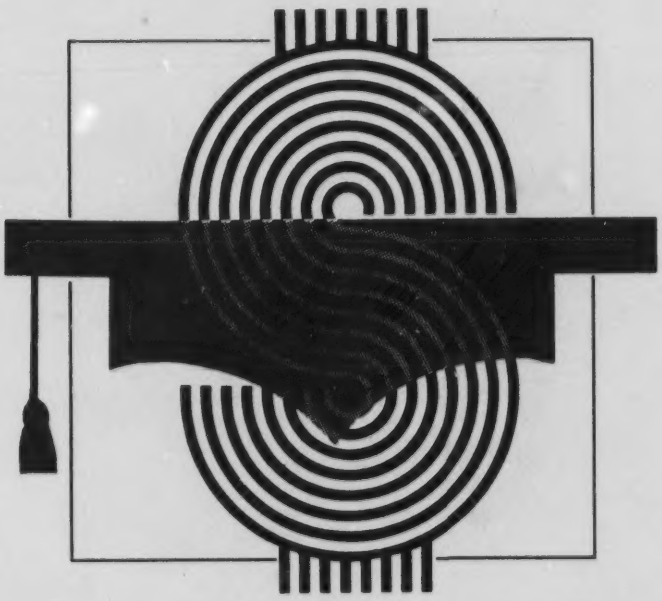
Study of How Health Professions Students Finance Their Education, 1976-1977



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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Health Resources Administration
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DHHS Publication No. (HRA) 80-52

Contents

	Page
Introduction	1
Chapters	
I. Survey Procedures	3
A. Survey Purpose	3
B. Selection Procedure	3
C. Response Rate	4
D. Study Modifications	5
II. Characteristics of Students	7
A. Estimated Enrollment	7
B. Demographic Profile	10
C. Racial/Ethnic Background	13
D. Marital Status	16
E. Socioeconomic Background	18
III. Expenses of Students	29
A. Expenditures Reported	29
B. Total and Categorical Expenditures	31
C. Expenses by School Control	32
D. Expenses by Marital Status	34
E. Expenses by Year in Program	37
F. Expenses by Geographic Region	39

		Page
IV.	Income of Students	41
	A. Sources of Income	41
	B. Proportionate Contribution of Sources	43
	C. Nonrefundable Sources of Income	46
	D. Refundable Sources of Income	52
V.	Indebtedness of Students	61
	A. Definition of Debt	61
	B. Prior Debt	61
	C. Current Debt	64
	D. Anticipated Debt	68
	E. Summary of Indebtedness	70
VI.	Conclusion	73
Appendix A.	1976-1977 Survey Instrument	77
Appendix B.	Health Professions Schools Participating in 1976-77 Survey	93
Appendix C.	Procedure for Estimating 1976-77 School Year Expenditure Data for Students of Allopathic Medicine	101

LIST OF TABLES

Table Number:		Page
1.	Numbers of Health Professions Students Represented by the 1976-77 Survey	8
2.	Percent Distribution of Health Professions Students Surveyed by Year in Program: School Year 1976-77	9
3.	Percent Distribution of Marital Status of Health Professions Students by Year in Program: School Year 1976-77	17
4.	Percent Distribution of Health Professions Students by Size of Hometown Compared to All Persons in the United States: School Year 1976-1977	19
5.	Median Family Income and Percent Distribution of Health Professions Students' Family Income Compared to All Families in the United States: 1976	21
6.	Percent Distribution of Health Professions Students by Father's Educational Level Compared to All U.S. Males, 40 Years and Over: School Year 1976-1977	23
7.	Percent Distribution of Health Professions Students by Mother's Educational Level Compared to All U.S. Females, 40 Years and Over: School Year 1976-1977	24
8.	Percent Distribution of Health Professions Students by Father's Occupation: School Year 1976-77	26
9.	Distribution of Health Professions Students by Mother's Occupation: School Year 1976-1977	27
10.	Average Annual Expenses of Health Professions Students: School Year 1976-77	30
11.	Average Annual Expenses of Health Professions Students by School Control and Expense Item: School Year 1976-1977	33
12.	Average Annual Expenses of Health Professions Students by Expense Item and Marital Status: School Year 1976-77	36
13.	Average Annual Expenses of Health Professions Students by School Class and Marital Status: School Year 1976-77	38
14.	Number of Health Professions Students and Average Annual Expenses by School Control and Geographic Region: School Year 1976-77	40

LIST OF TABLES (Continued)

		Page
15.	Proportion of Health Professions Students Who Reported Income from Various Sources: School Year 1976-77	42
16.	Percent of Health Professions Students' Income from Nonrefundable and Refundable Sources: School Year 1976-77	44
17.	Average Amount of Nonrefundable Income of Health Professions Students Who Reported Income from Various Sources: School Year 1976-77	47
18.	Proportion of Health Professions Students' Total Income from Nonrefundable Sources by Marital Status: School Year 1976-77	49
19.	Median Hours Worked Per Week by Health Professions Students by Marital Status: School Year 1976-77	50
20.	Proportion of Health Professions Students Who Worked During School Year 1976-77 by Year in Program	51
21.	Average Amount of Refundable Income of Health Professions Students Who Reported Income from Various Sources: School Year 1976-77	53
22.	Proportion of Health Professions Students With and Without Loans by Marital Status: School Year 1976-77	54
23.	Percent Distribution of Health Professions Students With and Without Loans by Family Income: School Year 1976-77	56
24.	Proportion of Health Professions Students With Loans by School Control: School Year 1976-77	57
25.	Percent Distribution of Health Professions Students by Number of Loans: School Year 1976-77	59
26.	Number of Loans and Average Amount Borrowed from Each Source by Health Professions Students: School Year 1976-77	60
27.	Proportion of Health Professions Students Currently Indebted and Average Amount of Debt by Marital Status, Reported June 1977	66
28.	Proportion of Health Professions Students Currently Indebted and Average Amount of Debt by Year in Progam: School Year 1976-77	67
29.	Average Amount of Prior Debt, Current Debt, and Anticipated Debt of Health Professions Students by School Control, Reported June 1977	71

LIST OF FIGURES

Figure Number:		Page
1.	Distribution of Health Professions Students by Sex Compared to U.S. Enrollment in Year 5 or More of College: School Year 1976-77	11
2.	Average Age of Health Professions Students by Sex: School Year 1976-77	12
3.	Distribution of Minority Health Professions Students: School Year 1976-77	14
4.	Distribution of Health Professions Students For School Year 1976-77 by Hispanic Minority, Non-Hispanic Minority, Nonminority Identification: Compared to 1976 U.S. Resident Population Age 20-34	15
5.	Proportion of Health Professions Students Reporting Indebtedness Prior to Entering Professional School and Average Amount of Debt: School Year 1976-77	63
6.	Proportion of Health Professions Students Reporting Current Debt As of June 1977 and Average Amount of Debt	65
7.	Proportion of Health Professions Students Who Anticipated Being in Debt Upon Graduation and Average Amount of Anticipated Debt Reported in School Year 1976-77	69

Introduction

This publication reports on a national survey of health professions students which was sponsored by the Bureau of Health Manpower and the Office of Health Resources Opportunity, Health Resources Administration. The purpose of the survey was to gather information on the expenses that health professions students incurred and the financial resources that they used to finance their education during school year 1976-77. Included in this survey were students in schools of dentistry, optometry, osteopathic medicine, pharmacy, podiatry, public health, and veterinary medicine. Students in schools of allopathic medicine were not included in the 1977 survey since they had been surveyed during the 1974-75 school year and were scheduled for a similar survey during school year 1977-78.

The 1977 survey of health professions students was conducted by Audits and Surveys, Inc., a private research organization, under contract to the Bureau of Health Manpower, in cooperation with the various professional schools, the American Association of Colleges of Osteopathic Medicine, the American Association of Dental Schools, the Association of Schools and Colleges of Optometry, the American Association of Colleges of Pharmacy, the American Association of Colleges of Podiatric Medicine, the Association of Schools of Public Health, and the American Veterinary Medicine Association.

The last national survey of health professions students was conducted under contract by the Bureau of Health Manpower in 1971. At that time students of allopathic medicine were included in the survey but public

health students were not. The data from the 1971 survey were reported in the publication How Health Professions Students Finance Their Education (HRA) 74-13. Comparable data from the 1971 and 1977 surveys of health professions students will be reported in a later publication.

This report was prepared by Nina Mocniak in the Institutional and Student Profile Analysis Branch, with A. Ruth Crocker, Chief, in the Division of Manpower Analysis, with Howard V. Stambler, Director. (On March 18, 1980, the Division of Manpower Analysis became the Division of Health Professions Analysis, and the Bureau of Health Manpower became the Bureau of Health Professions.) Staff members who contributed to the preparation of this report were Susan L. Lakey and Rosalyn G. Roman.

The reader should be cautioned that the figures presented in this report were estimated from data reported by the students and may differ from other similar data reported by the health professions schools and other sources.

I. Survey Procedures

Survey Purpose

The purpose of surveying health professions students was to collect information on relevant educational expenditures, sources of income to meet those expenditures, and indebtedness incurred by the students for the school year 1976-77. In April 1977 a sample of students registered in schools of dentistry, optometry, osteopathic medicine, pharmacy, podiatry, public health, and veterinary medicine received a mailed questionnaire. A copy of this questionnaire appears in Appendix A. The information provided by the respondents afforded estimates of the relevant sociodemographic characteristics and financial activities of all students registered in these health professions schools.

Selection Procedure

The students selected for the survey were chosen by using a two-stage selection procedure. In the first stage all schools were selected for each discipline except dentistry and pharmacy, where every third school was selected from a list of schools which had been grouped according to form of support, public or private, and second, according to size of enrollment. School support or control is defined as public if that institution is under Federal, State, State-related, local governmental, or State and local governmental control; as private if the institution is independent or affiliated with a religious group. Thus, in the first stage of selection there were 18 schools of dentistry, 24 schools of pharmacy, 12 schools of optometry, 9 schools of osteopathic

medicine, 5 schools of podiatry, 17 schools of public health, and 19 schools of veterinary medicine. The names of the schools participating in the survey are given in Appendix B.

The second-stage selection units were the students registered in the schools identified in the first stage of the sample. School registrars selected the students for the sample by choosing students from the school's roster which had been stratified by sex and by racial/ethnic minority group, i.e., students of American Indian or Alaskan Native, Asian or Pacific Islander, Black or Negro, and Hispanic Heritage. Women and minority students were oversampled to insure an adequate representation of these students. Therefore, the probability of selection which determined the sample weight for each selected student was different for minorities, females, and males.

Response Rate

The students selected for the survey received a mailed questionnaire during the spring term of the 1976-77 academic year. Fifty-seven percent of the selected students returned the questionnaire. To determine if the distributions of certain characteristics of the weighted sample population were representative of the total population, a comparison was made between the survey respondents and the target population on the distribution of students by sex, year in program, and minority status. The comparison showed that both populations were similarly distributed according to year in program and minority classification, but

that slightly fewer women responded to the survey than would have been expected. However, the difference in the distribution of male/female students was not significant enough to affect the findings presented in this report.

Study Modifications

As stated earlier, students enrolled in schools of allopathic medicine were not included in the 1976-77 school year survey of health professions students. Medical students were surveyed during the 1974-75 and 1977-78 school years to determine the expenses they incurred in obtaining an education and the resources they used to finance their education. The results of these surveys are reported by the Bureau of Health Manpower in Survey of How Medical Students Finance Their Education 1974-75, (HRA) No. 76-94, and by the American Association of Medical Colleges (AAMC) in Studies of Medical Student Financing 1977-78. In addition the Bureau of Health Manpower reported on the composition of allopathic medical student enrollment and its demographic characteristics during school year 1976-77 in Descriptive Study of Enrolled Medical Students 1976-77, (HRA) No. 78-80.

Most of the tables presented in this report include relatively comparable information from the above-cited publications on students enrolled in schools of allopathic medicine. Demographic information and enrollment characteristics for allopathic medical students were taken from the publication reporting on the 1976-77 school year, and financial information for 1976-77 was estimated from the 1974-75 and 1977-78 survey data. The method of estimation is described in Appendix C.

II. Characteristics of Students

Estimated Enrollment

This chapter presents information based on estimates from the 1977 survey data on the demographic and socioeconomic characteristics of the students enrolled in health professions schools during the 1976-77 academic year. Estimates of the total numbers of students described by this survey information are given in Table 1. The distributions of health professions students surveyed by year in program are given in Table 2. It should be noted that the information in Tables 1 and 2 was estimated from the 1977 survey data and differs slightly from actual enrollment figures.

Most students receive a degree after completing an undergraduate program and then 3 or 4 years of a professional program or, on the average, a total of 8 years of training. Some medical and dental schools offer a professional degree after an accelerated 4-year program which is completed in 3 years. Third year students attending these schools were considered as seniors in this report. Pharmacy students receive a degree after a total of 5 years of instruction. Pharmacy schools offer a 3-year, 4-year, or 5-year program. Schools with a 3-year program admit students after 2 years of undergraduate work; schools with a 4-year program admit students after 1 year of undergraduate work; and schools with a 5-year program admit students who have completed high school. Thus, only the last 3 years of pharmacy school are considered to be the professional training period. For this reason, only those pharmacy students who were in the last 3 years of their program were surveyed.

Table 1: Numbers of Health Professions Students Represented by the 1976-77 Survey

Discipline	Number
Allopathic Medicine[1/]	58,000
Dentistry	18,300
Optometry	3,960
Osteopathic Medicine	3,010
Pharmacy	21,870
Podiatry	2,140
Public Health	5,590
Veterinary Medicine	6,210

1/ DHEW Publication No. (HRA) 78-80, Descriptive Study of Enrolled Medical Students, 1976-77

Table 2: Percent Distribution of Health Professions Students Surveyed by Year in Program: School Year 1976-77

Year of Program	Dental[1/]	Optometry	Osteopathy	Podiatry	Public Health	Veterinary Medicine
All Years	100	100	100	100	100	100
First Year	33	28	33	31	57	31
Second Year	29	25	25	29	30	26
Third Year	16	25	24	21	7	23
Last Years	22	22	18	19	6	20
Total # Students	18,300	3,960	3,010	2,140	5,590	6,210

Pharmacy[2/]

Year of Program	Percent of Total
All Years	100
3rd Yr. of Pro.	37
4th Yr. of Pro.	32
Last Yr. of Pro.	31
Total Students	21,870

Allopathic Medicine[3/]

Year of Program	Percent of Total
All Years	100
First Year	27
Intermediate Yrs.	49
Last Year	24
Total Students	58,000

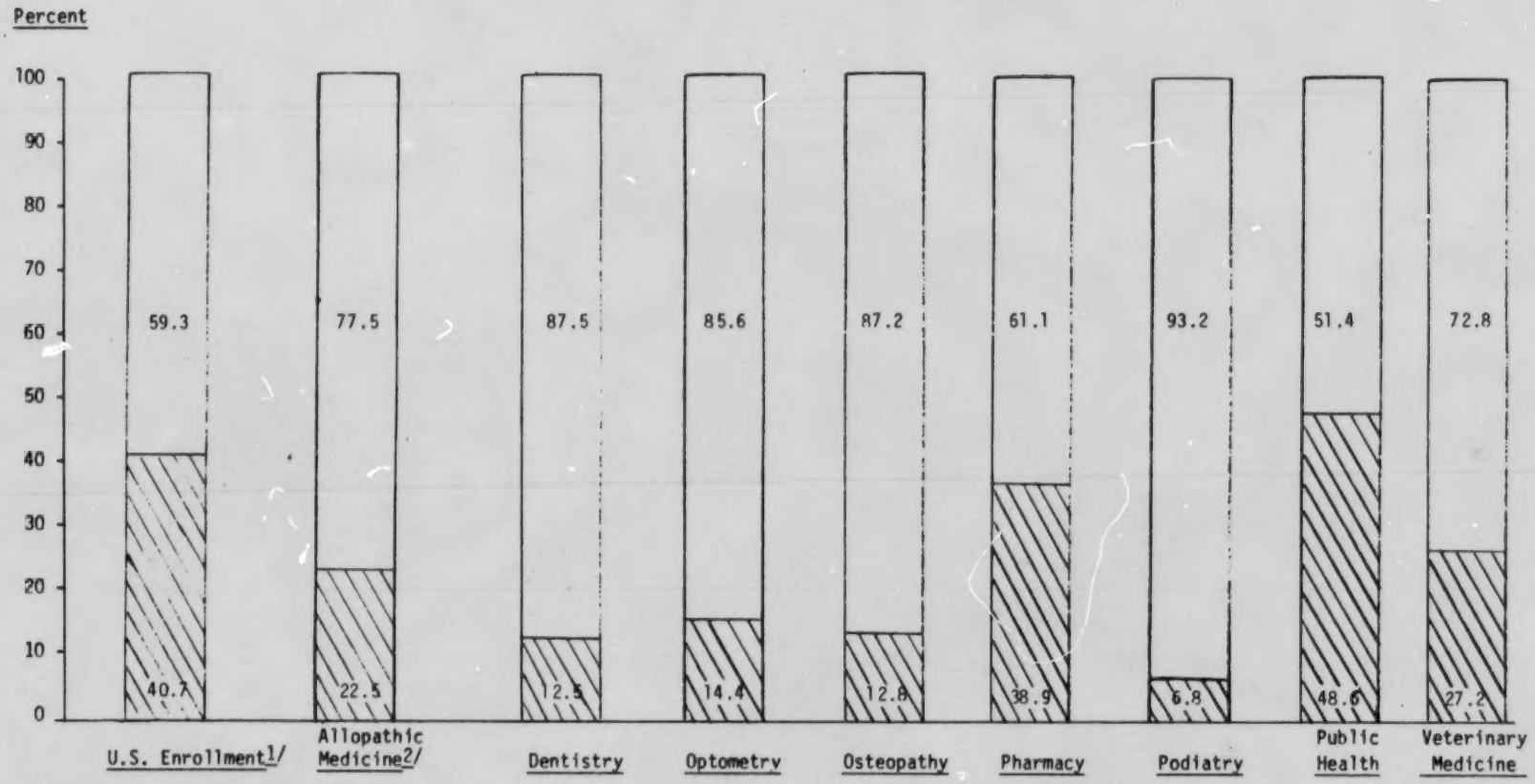
1/ Four of the dental schools surveyed offered an accelerated 4-year program which could be completed in 3 years. These third year students were considered with seniors in this report.
2/ Pharmacy schools offer a 3-, 4-, or 5-year program. The last 3 years of pharmacy programs are considered to be the professional training period.
3/ Descriptive Study of Enrolled Medical Students 1976-77, DHEW Publication (HRA) No. 78-80.

Demographic Profile

To develop a demographic profile of students enrolled in health professions schools, students were asked to supply information on their sex and age. The Bureau of the Census provides estimates of total U.S. enrollments in year 5 or more of colleges in the Current Population Reports. The distribution of health professions students and of all students enrolled in year 5 or more of college are given in Figure 1. Of students enrolled in the health professions schools, about 40 percent of the pharmacy and public health students were women, which was similar to the 1976-77 national enrollment figure for women. In the other health professions the proportion of female students was significantly less than the national enrollment figure for women.

The average age of the health professions students varied according to, among other things, the admission requirements of the health professions schools and according to the sex of the student. As can be seen in Figure 2, women students were younger than their male counterparts in optometry, pharmacy, podiatry, and public health. Public health students were older than students in the other health professions schools because most public health programs require that students have a baccalaureate degree and an average of 3 years of work experience before admission. Pharmacy students were generally younger than students in the other health professions because, as noted earlier, students may be admitted upon graduation from high school or upon completion of 2 years of undergraduate work.

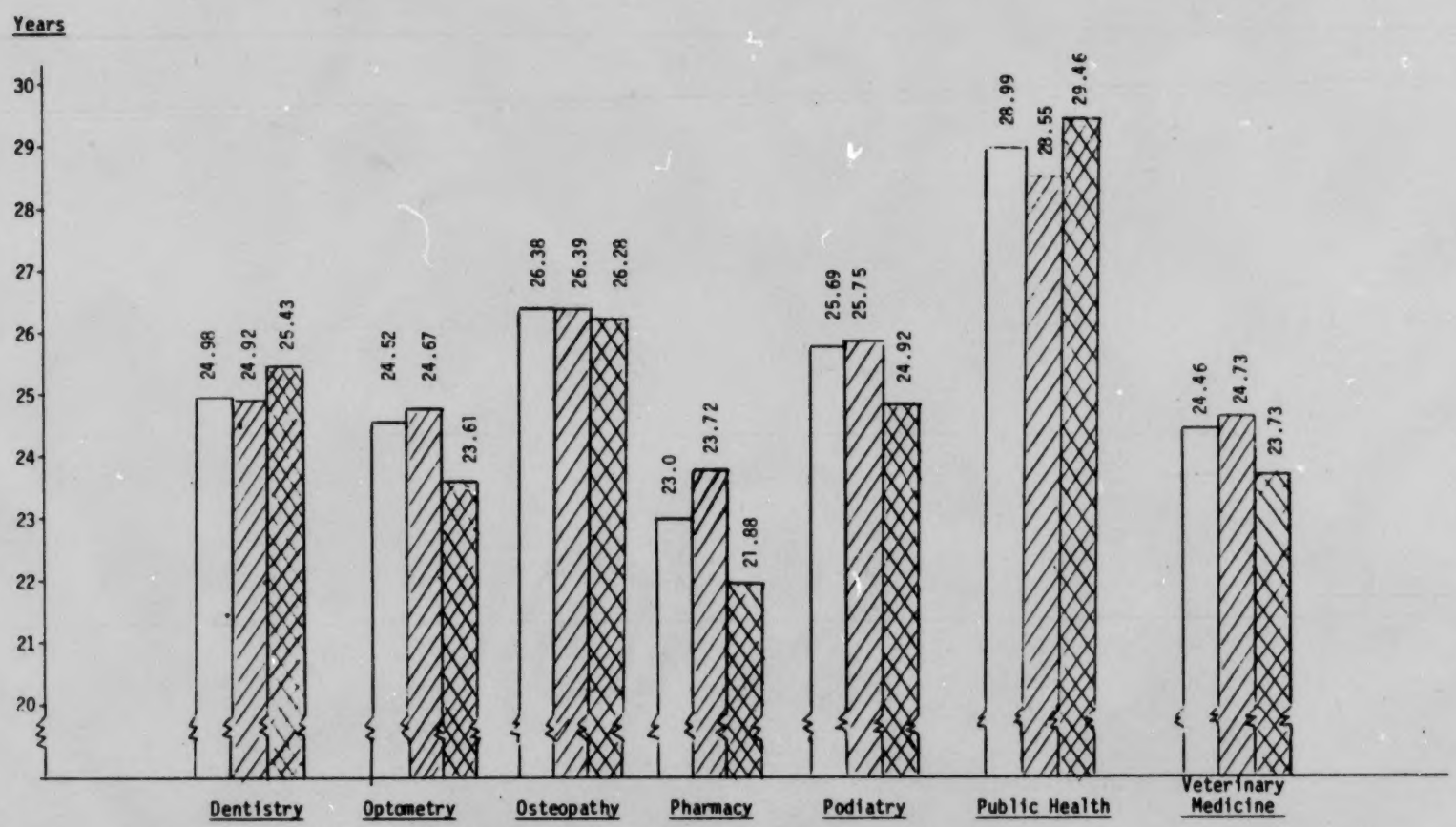
Figure 1: Distribution of Health Professions Students by Sex
Compared to U.S. Enrollment in Year 5 or More of College: School Year 1976-77



1/ Current Population Reports, U.S. Bureau of the Census, series P-20, No. 318
2/ Descriptive Study of Enrolled Medical Students 1976-77, DHEW Publication (HRA) No. 78-80.

Legend: Male - □
Female - ▨

Figure 2: Average Age of Health Professions Students by Sex: School Year 1976-77[1/]



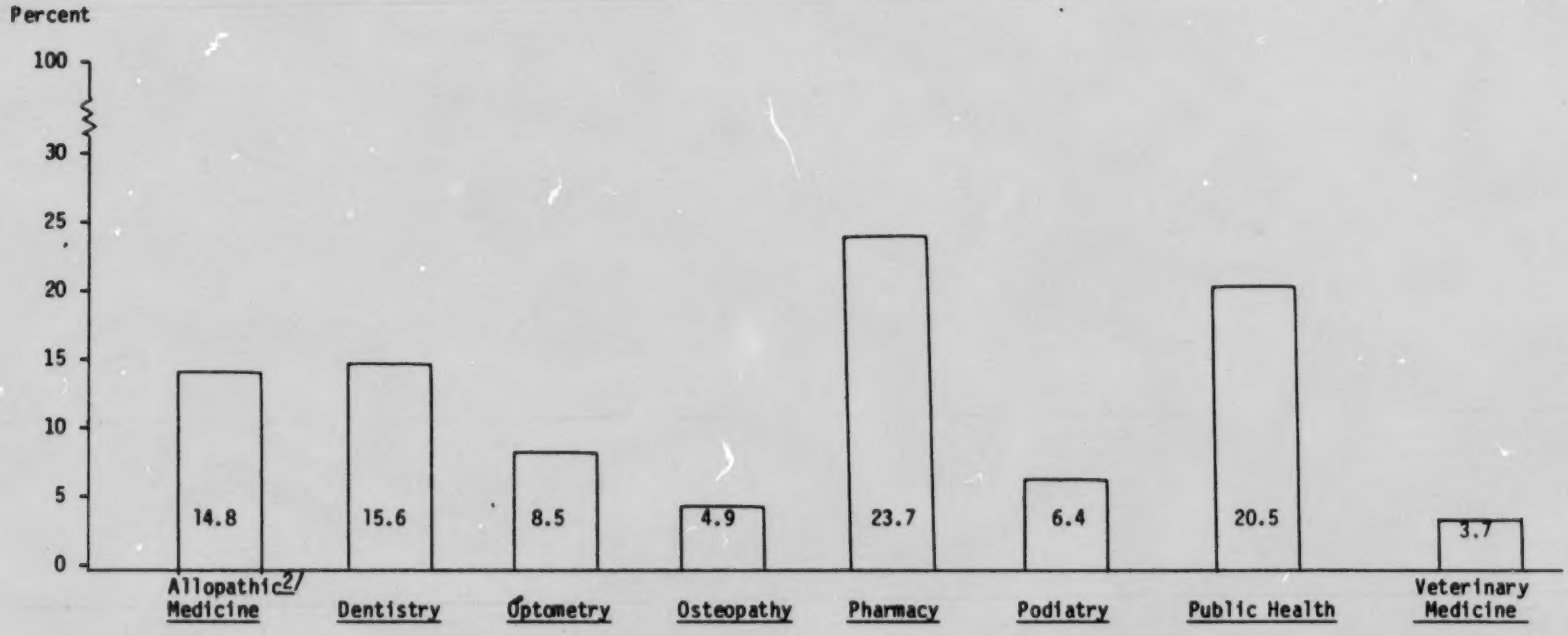
1/ Data not available by sex for allopathic medical students. Average age of all medical students is 24.5, calculated from grouped data given in DHEW Publication No. (HRA) 77-53.

Total - □
Male - ▨
Female - ▩

Racial/Ethnic Background

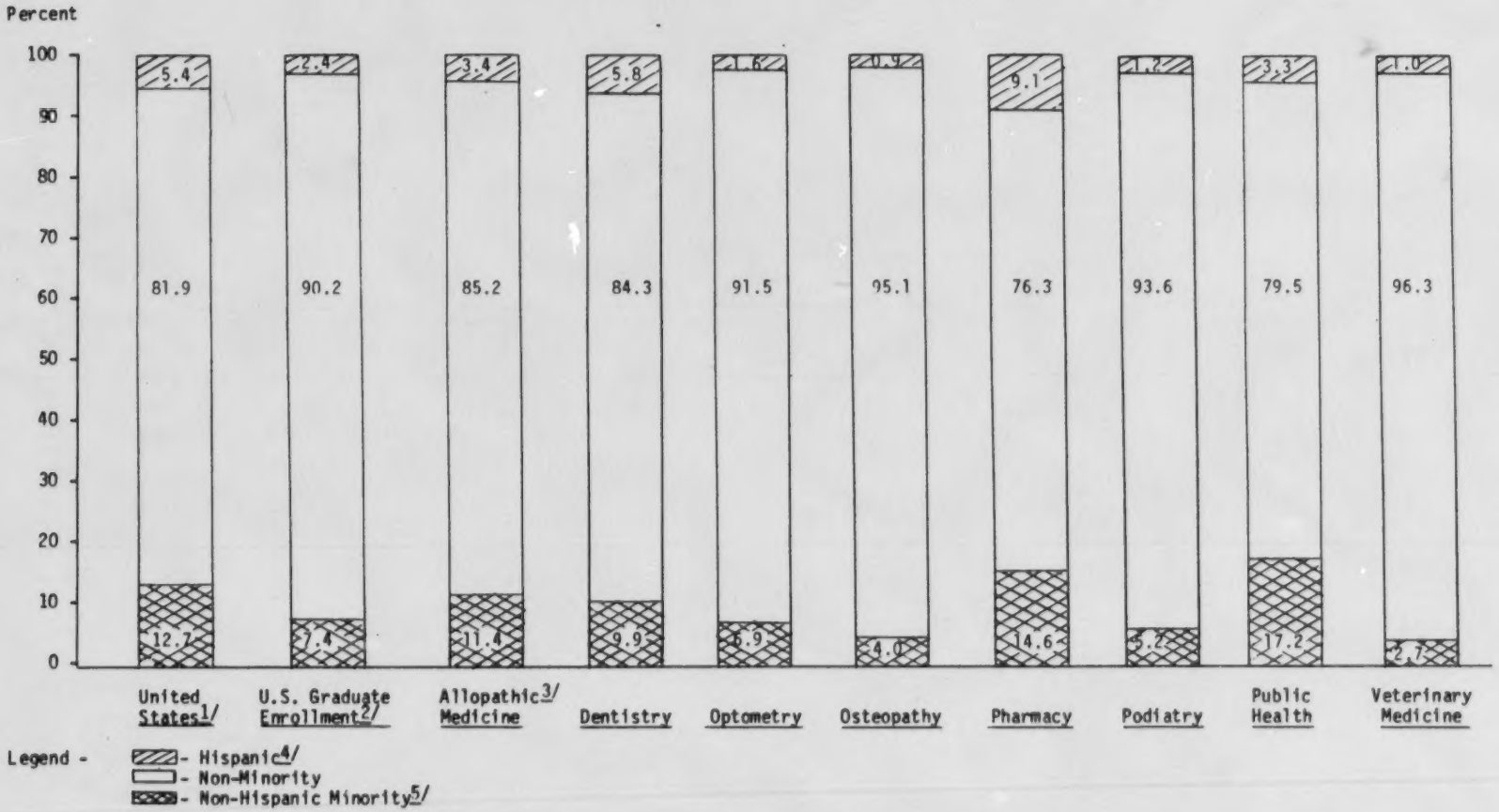
Each student in the survey was asked to report his/her racial/ethnic background. Less than 1 percent of the students failed to report this information. Only those students who reported their backgrounds as American Indian or Alaskan Native, Asian or Pacific Islander, Black or Negro, or Hispanic heritage were classified as minority. The representation of minority students in the various health professions ranged from about 20 percent in public health and pharmacy to 5 percent in veterinary medicine. Figure 3 shows the distribution of minority and nonminority students in the health professions schools. Figure 4 provides a further breakdown of the nonminority and minority identification by separating students of Hispanic heritage from the total minority group defined above. Also shown in this figure is the distribution of the representation of Hispanic, non-Hispanic minority, and nonminority groups in the total U.S. graduate school enrollment and in the U.S. population, 20 to 34 years old. A comparison of the distribution of health professions students and U.S. graduate students, by minority identification, to that of the total U.S. resident population 20 to 34 years old, shows that schools of pharmacy and public health had student populations most representative of the total U.S. resident population. The representation of Hispanics and non-Hispanic minorities in the U.S. graduate population and in schools of veterinary medicine, osteopathic medicine, podiatry, and optometry was lower than its proportionate representation in the total U.S. resident population 20 to 34 years old.

Figure 3: Distribution of Minority Health Professions Students: School Year 1976-1977[1/]



1/ Minority is defined as American Indian or Alaskan Native; Asian or Pacific Islander; or Black or Negro; Hispanic.
2/ Descriptive Study of Enrolled Medical Students 1976-77, DHEW Publication (HRA) No. 78-80.

Figure 4: Distribution of Health Professions Students For School Year 1976-77 by Hispanic Minority, Non-Hispanic Minority, Non-Minority Identification: Compared to 1976 U.S. Resident Population Age 20-34



1/ Total U.S. Resident Population age 20-34. U.S. Bureau of Census, Current Population Reports, series P-20, No. 334.
2/ School enrollment in year 5 or more of college. U.S. Bureau of the Census, Current Population Reports, series P-20, No. 319.
3/ Descriptive Study of Enrolled Medical Students 1976-77, DHEW Publication (HRA) No. 78-80.
4/ Spanish surname.
5/ American Indian, Alaskan Native, Asian Pacific Islander, Black or Negro.

Marital Status

Students were asked to provide information on their marital status, their financial dependents, the size of their hometown, the amount of their parents' (guardians) income, the educational backgrounds of their parents, and the occupation(s) of their parents. These demographic and socioeconomic data are relevant in discussing the total expenses incurred by a student in obtaining an education and to the student's ability to finance that education. Proportionately more pharmacy students were single than were students in the other health professions. This may be explained by the facts that, on the average, pharmacy students were younger than their counterparts in the other health professions, and that younger students were less likely to be married than older ones. As can be seen in Table 3, in the first year of the programs between 20 and 40 percent of the students were married and in the last years between 33 to 50 percent were married. This represents a 30 percent change in marital status.

Table 3: Percent Distribution of Marital Status of Health Professions Students by Year in Program: School Year 1976-77

Year of Program and Marital Status	All Health Professions	Dentistry	Optometry	Osteopathy	Pharmacy[2/]	Podiatry	Public Health	Veterinary Medicine
All Students								
Single	57	58	62	50	76	52	56	59
Married	30	30	29	31	17	35	26	29
Married with children	13	12	9	19	7	13	17	12
First Year of Program								
Single	67	71	74	65	-	64	59	67
Married	23	20	20	25	-	27	24	26
Married with children	10	9	6	10	-	9	17	7
Second Year of Program								
Single	58	58	68	49	84	57	55	62
Married	29	27	27	34	12	32	29	26
Married with children	13	15	5	17	4	11	16	12
Third Year of Program								
Single	50	55	53	39	76	40	53	55
Married	37	35	35	35	17	42	27	32
Married with children	13	10	12	26	7	18	20	13
Last Years of Program								
Single	44	42	49	35	66	36	42	50
Married	38	45	38	35	25	46	33	31
Married with children	18	13	13	30	9	18	25	19

1/ Data not available for allopathic medical students by year in program. DHEW Publication No. (HRA) 76-94 reports that in school year 1974-75, 62% of allopathic medical students were single, 29% married, and 9% married with children.

2/ Pharmacy schools offer a 3-, 4-, or 5-year program. The last 3 years of pharmacy programs are considered to be the professional training period.

Socioeconomic Background

The distribution of health professions students and the total U.S resident population by size of hometown is presented in Table 4. The classification of the size of hometown is related to the Census Bureau definition of standard metropolitan statistical areas (SMSAs) which are cities of 50,000 or more inhabitants, the counties in which they are located, and neighboring counties that are closely associated with them by daily commuting ties. Central cities are those cities located within the SMSAs; outside central cities are the balance of the SMSAs; and nonmetropolitan includes cities of less than 49,999 people, towns, farms, and rural or unincorporated areas.

The distribution of all health professions students by size of hometown is quite different from that of the total U.S. resident population where the largest number of people live outside central cities. In 1976, the largest proportion of U.S. residents (nearly 40 percent) lived outside central cities. In comparison, the percentages of health professions students from that area ranged from 19 percent to 29 percent. The largest proportion of podiatry and public health students came from cities of more than 50,000, 47 and 43 percent respectively. The largest proportion of students of dentistry, optometry, osteopathy, pharmacy, and veterinary medicine came from nonmetropolitan areas, between 39 and 60 percent.

Table 4: Percent Distribution of Health Professions Students by Size of Hometown Compared to All Persons in the United States: School Year 1976-1977[1/]

Location of Residence	United States[2/]	Dentistry	Optometry	Osteopathy	Pharmacy	Podiatry	Public Health	Veterinary Medicine
Total Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
In Central Cities[3/]	29.2	36.6	28.4	31.7	33.0	47.0	42.6	21.0
Outside Central Cities	38.8	24.5	21.8	28.4	18.9	29.4	27.2	19.4
Non-metropolitan areas[4/]	32.0	38.9	49.8	39.9	48.1	23.6	30.2	59.6
Total Number	214,435,000	18,300	3,961	3,010	21,870	2,140	5,590	6,210

1/ Data not available for allopathic medical students.
2/ U.S. Resident Population.
3/ Cities of 50,000 or more people.
4/ Includes cities less than 49,999 people, towns, farms, rural or unincorporated area.

19

Health professions students were generally from families who had incomes higher than that of the overall U.S. population. The distributions of family incomes of students in all health professions, except those in public health, did not differ significantly from one another. The median family incomes for health professions students differed significantly from the median family income for all U.S. families in 1976. The median family income of health professions students ranged from $16,940 for pharmacy students to $19,700 for dentistry students. The median income for all U.S. families in 1976 was $14,900. On the average, students enrolled in health professions schools came from families whose median income was 20 percent higher than the median U.S. family income. It should be noted that this comparison may be biased toward the families of the health professions students. Their families were generally headed by people over 40 years of age, whereas the U.S. income distribution represents all families. (A family is defined by the U.S. Bureau of the Census as a group of two or more presons related by blood, marriage, or adoption and residing together in a household.) Table 5 shows the distribution of health professions students by the size of their parents' or family income and the distribution of family income for all families in the United States.

Table 5: Median Family Income and Percent Distribution of Health Professions Students' Family Income Compared to All Families in the United States: 1976

Family Income	All Families in U.S., 1976[1]	Allopathic Medicine[2]	Dentistry	Optometry	Osteopathy	Pharmacy	Podiatry	Public Health	Veterinary Medicine
Total Percent	100	100	100	100	100	100	100	100	100
Less Than $5,000	10	4	5	4	6	8	8	12	5
$5,000 - $9,999	20	9	12	10	16	14	13	14	12
$10,000 - $14,999	20	20	17	20	19	21	18	17	21
$15,000 - $19,999	19	18	17	19	15	18	20	15	17
$20,000 - $24,999	13	15	19	20	14	17	18	13	17
$25,000 - $49,999	18	22	22	20	19	18	17	21	21
$50,000 or more		12	8	7	11	4	6	8	7
Median Income	$14,960	$19,700	$19,700	$19,200	$18,000	$16,940	$17,750	$17,330	$18,530

1/ U.S. Bureau of the Census, Current Population Reports, series P-60, No. 114.

2/ Studies of Medical Student Financing, 1977-78, Preliminary Report, Association of American Medical Colleges.

In addition to a difference between the distribution of the health professions students' family income and that of all U.S. families, there was also a difference between the educational levels of the health professions students' parents and that of U.S. males and females over 40 years of age. The percent distributions of the health professions students' parents and of U.S. males and females over 40 by educational levels are given in Tables 6 and 7. More of the health professions students' parents than the U.S. population over 40 years of age had at least some college education. More than one-third of all health professions students' fathers had a college degree, whereas only 15 percent of all U.S. males over 40 years old had completed college. About 20 percent of the students' mothers had college degrees, whereas only 11 percent of all U.S. females over 40 years old did. The mothers of the health professions students generally had fewer years of education than the fathers did. Between 8 and 16 percent of the mothers reported having a graduate or professional degree, whereas 19 to 37 percent of the fathers had a graduate degree. A comparison of the educational attainment of the parents of health professions students shows that generally parents of students of allopathic medicine, dentistry, and veterinary medicine had more education than the parents of other students.

Table 6: Percent Distribution of Health Professions Students by Father's Educational Level Compared to All U.S. Males, 40 Years and Over: School Year 1976-1977

Education Level	United States Males over 40[1/]	Allopathic Medicine[2/]	Dentistry	Optometry	Osteopathy	Pharmacy	Podiatry	Public Health	Veterinary Medicine
Total Percent	100	100	100	100	100	100	100	100	100
Grade School	26	6	6	5	8	10	8	12	6
Some High School	16	5	7	9	9	10	11	9	7
Completed High School and/or Tech. School	32	19	25	32	27	33	31	25	31
Some College	11	13	16	15	13	13	15	13	12
College	8	20	17	15	12	15	13	14	21
Graduate or Profes. School	7	37	29	24	31	19	22	27	23

1/ U.S. Bureau of the Census, Current Population Reports, series P-20, No. 314.
2/ Descriptive Study of Enrolled Medical Students 1976-77, DHEW Publication (HRA) No. 78-80.

Table 7: Percent Distribution of Health Professions Students by Mother's Educational Level Compared to All U.S. Females, 40 Years and Over: School Year 1976-1977

Education Level	United States Females over 40 1/	Allopathic Medicine 2/	Dentistry	Optometry	Osteopathy	Pharmacy	Podiatry	Public Health	Veterinary Medicine
Total Percent	100	100	100	100	100	100	100	100	100
Grade School	20	4	4	3	6	9	5	10	3
Some High School	16	5	6	7	9	9	10	9	5
Completed High School and/or Tech. School	40	33	43	49	42	46	52	37	41
Some College	13	19	17	18	17	13	16	14	17
College	7	23	17	13	13	13	9	15	23
Graduate or Profes. School	4	16	13	10	13	10	8	15	11

1/ U.S. Bureau of the Census, Current Population Reports, series P-20, No. 314.
2/ Descriptive Study of Enrolled Medical Students 1976-77, DHEW Publication (HRA) No. 78-80.

In view of the educational and income levels of the parents of health professions students, it is reasonable to expect that a high proportion of their parents would have professional or managerial jobs. The data presented in Tables 8 and 9 confirm this expectation. These tables are arranged with two subheadings, "health professionals," and "other occupations." In the subdivision of "health professionals" there are eight categories--the seven individual health professions and an "any above" category. In each case the eighth category, "any above professions," represents a combination of the seven professions with the exception of the health profession for which the student is studying. That profession is presented separately because the proportion of students with parents employed in the itemized health professions is small, and the proportion with parents employed in the profession for which the student is studying is larger.

An examination of the proportions of students whose fathers were employed as health professionals shows that more students of allopathic and osteopathic medicine, 19 and 17 percent respectively, reported that their fathers were health professionals. The likelihood that a student would follow the health professional career of his/her father was highest for students of allopathic medicine, and then for students of optometry, pharmacy, and dentistry. Fewer of the veterinary students' fathers, 8 percent, were health professionals. Most mothers of health professional students, between 46 and 52 percent, were homemakers. If the mothers were employed, they were likely to work as health or other professional workers, or as clerical/office/sales workers.

Table 8: Percent Distribution of Health Professions Students by Father's Occupation: School Year 1976-77

Occupation	Allopathic Medicine[1/]	Dentistry	Optometry	Osteopathy	Pharmacy	Podiatry	Veterinary Medicine
Total Percent	100	100	100	100	100	100	100
Health Professions Sub-Total	19	14	13	17	9	12	8
Physician	14	-	-	-	-	-	-
Dentist	-	8	-	-	-	-	-
Optometrist	-	-	8	-	-	-	-
Osteopath	-	-	-	8	-	-	-
Pharmacist	-	-	-	-	6	-	-
Podiatrist	-	-	-	-	-	5	-
Veterinarian	-	-	-	-	-	-	4
Any Above Profession	5	6	5	9	3	7	4
Other Occupations Sub-Total	81	86	87	83	91	88	92
Other Health Wkr.	-[2/]	1	1	1	1	-	-
Professional Wkr.	26	18	16	17	15	13	20
Owner, Mgr., Proprietor	23	19	21	19	19	25	20
Clerical, Office, Sales	6	12	10	10	9	11	10
Craftsman, Skilled Worker	8	18	17	17	24	19	15
Unskilled Laborer	4	4	4	5	6	5	4
Farmer, Farm Laborer	3	3	3	3	4	1	16
Other[3/]	11	11	15	11	13	14	7

1/ Descriptive Study of Enrolled Medical Students, 1976-77, DHEW Publication (HRA) No. 78-80.
2/ Included in "Any Above Profession" for students of allopathic medicine only.
3/ Includes students, other occupations, unemployed.

Table 9: Distribution of Health Professions Students by Mother's Occupation: School Year 1976-77

Occupation	Allopathic Medicine[1/]	Dentistry	Optometry	Osteopathy	Pharmacy	Podiatry	Veterinary Medicine
Total Percent	100	100	100	100	100	100	100
Health Professions Sub-Total	8	3	4	8	7	3	7
Physician	1	-	-	-	-	-	-
Dentist	-	-	-	-	-	-	-
Optometrist	-	-	-	-	-	-	-
Osteopath	-	-	-	-	-	-	-
Pharmacist	-	-	-	-	1	-	-
Podiatrist	-	-	-	-	-	1	-
Veterinarian	-	-	-	-	-	-	2
Any Above Profession	7	3	4	8	6	2	5
Other Occupations Sub-Total	92	97	96	92	93	96	93
Other Health Wkr.	-[2/]	6	2	2	2	6	-
Professional Wkr.	14	11	10	9	9	6	12
Owner, Mgr., Proprietor	4	4	4	3	2	4	3
Clerical, Office, Sales	12	19	21	16	20	25	19
Craftsman, Skilled Worker	1	2	3	3	4	2	3
Homemaker Housewife	52	47	46	51	46	46	49
Unskilled Laborer	3	3	3	4	4	3	4
Other[3/]	6	5	7	4	6	7	3

1/ Descriptive Study of Enrolled Medical Students, 1976-77, DHEW Publication (HRA) No. 78-80.
2/ Included in "Any Above Profession" for students of allopathic medicine only.
3/ Includes students, farmers, farmworkers, unemployed.

III. Expenses of Students

Expenditures Reported

Students surveyed during the 1976-77 school year were asked to estimate, to the nearest single dollar, the total amount that they expected to spend on themselves and their dependents during the year beginning July 1, 1976, and ending June 30, 1977. They provided information on educational or school expenses, including expenditures on tuition and fees, books and supplies, instruments and equipment, and other educational items; on living expenses, including expenditures on lodging, maintenance of living quarters, and food; and on other expenditures such as clothing, health care, transportation, and spouse's education. The amounts reported by each health profession student for the various items were used to determine the average amount expended by all students of that health profession. The average annual amounts of total expenses, of school expenses, of board and lodging, and of all other expenses for each health profession are given in Table 10. Although students of allopathic medicine were not surveyed during the 1976-77 school year, estimates of their 1976-77 expenditures are included in the following tables. These estimates are based on expenditure data from 1974-75 and 1977-78 surveys of medical student financing. The method used to estimate expenditures by students of allopathic medicine is detailed in Appendix C.

Table 10: Average Annual Expenses of Health Professions Students:
School Year 1976-77

Expense Item	Allopathic Medicine[1/]	Dentistry	Optometry	Osteopathy	Pharmacy	Podiatry	Public Health	Veterinary Medicine
All Expenses	$8,530	$9,890	$8,960	$11,070	$6,740	$11,720	$10,470	$7,030
School Expenses[2/]	3,190	3,780	3,280	4,030	1,850	4,780	1,910	1,880
Board & Lodging[3/]	3,060	3,070	2,870	3,390	2,450	3,570	4,020	2,480
All Other Expenses[4/]	2,280	3,040	2,810	3,650	2,440	3,370	4,540	2,660

1/ Estimated from data from 1974-75 and 1977-78 Survey of Medical Student Financing. See Appendix C.
2/ Figure includes estimated annual expenses for tuition and fees, books and supplies, equipment and uniforms.
3/ Figure includes estimated annual expenses for lodging and maintenance of living quarters and board.
4/ Figure includes estimated annual expenses for such items as personal maintenance, transportation, taxes, and insurance.

Total and Categorical Expenditures

The expenditure data for the health professions students show that there was a wide range in the average annual expenditure of health professions students during the 1976-77 school year. The average annual total amount spent by health professions students in obtaining their education ranged from a high of $11,720 by podiatry students to $6,740 by pharmacy students. A major reason for the polar positions of these two health professions is that all of the podiatry schools were privately owned and financed while only one-third of the pharmacy schools were private. Historically, private schools' educational costs are higher than public schools' costs. Average school expenses for pharmacy, public health, and veterinary students were much lower than those of the other students. A major reason was that a majority of these students, between 70 and 90 percent, were enrolled in public schools. Students enrolled in schools of podiatry, which as noted above were all private schools, had the highest school expenses, $4,780.

Differences among the various health professions in terms of expenditures on board, lodging, and other items can be related to the proportion of the health professions students who were married. Married students, especially if they had children, reported that they spent more on board, lodging, and other items than did single students. Of all the health professions students, fewer (24 percent) of the pharmacy students were married and more of the osteopathy (50 percent), podiatry (52 percent), and public health students (56 percent) were married. Thus their expenditures on board, lodging, and other expenses were greater.

Pharmacy students spent the lowest amount, $2,450, on board and lodging while osteopathy, podiatry, and public health students spent substantially more. Public health students, who on the average were older than students in the other disciplines, reported more cases of educational expenses for spouses and children. This item was a component of the "all other expenses" category.

Expenses by School Control

The average expenses for students differed sharply according to whether they were enrolled in public or private schools during the 1976-77 school year, and school expenses accounted for nearly all of the difference. In each health profession, students attending private schools reported average school expenses which were about 150 percent greater than those reported by students in public schools. Of all students attending private schools, veterinary students reported the highest average annual expenditure of $5,420 for school expenses, and public health students reported the lowest average amount of $3,430 for the same item. Of all students attending public school, dental students reported the highest average annual expenditure of $3,050 for school expenses, and pharmacy students reported spending $1,000--the lowest amount for school expenditures. Table 11 shows the average annual expenses of the health professions students during the 1976-77 school year by school control.

Table 11: Average Annual Expenses of Health Professions Students by School Control and Expense Item: School Year 1976-77

School Control & Expense Item	Allopathic[1] Medicine	Dentistry	Optometry	Osteopathy	Pharmacy	Podiatry	Public Health	Veterinary Medicine
				Average Annual Expense				
All schools - average expenses	$ 8,530	$ 9,890	$ 8,960	$11,070	$ 6,740	$11,720	$10,470	$ 7,030
School Expenses[3]	3,190	3,780	3,280	4,030	1,850	4,780	1,910	1,890
Lodging & Maint. of living qtrs.	1,850	1,830	1,710	1,980	1,440	2,240	2,460	1,440
Board	1,210	1,240	1,160	1,410	1,010	1,330	1,560	1,040
All other expenses[4]	2,280	3,040	2,810	3,650	2,440	3,370	4,540	2,660
Public Schools - average expenses	$ 7,460	$ 9,060	$ 7,130	$ 9,540	$ 5,830	$ - [2]	$ 9,650	$ 6,860
School Expenses[3]	2,130	3,050	1,750	2,670	1,000	-	1,315	1,725
Lodging & Maint. of living qtrs.	1,845	1,830	1,650	1,990	1,430	-	2,415	1,415
Board	1,185	1,250	1,080	1,300	1,010	-	1,490	1,050
All other expenses[4]	2,300	2,930	2,650	3,580	2,390	-	4,430	2,670
Private Schools - average expenses	$10,090	$11,430	$10,060	$11,400	$ 8,560	$11,720	$12,590	$10,830
School Expenses[3]	4,750	5,150	4,200	4,325	3,525	4,780	3,430	5,420
Lodging & Maint. of living qtrs.	1,850	1,830	1,740	1,985	1,480	2,240	2,580	1,900
Board	1,240	1,210	1,210	1,430	1,010	1,330	1,750	980
All other expenses[4]	2,250	3,235	2,910	3,660	2,545	3,370	4,830	2,530

1/ Estimated from 1974-75 and 1977-78 Survey of Medical Student Financing. See Appendix C.
2/ There are no public schools of podiatry.
3/ Figure includes estimated annual expenses for tuition and fees, books and supplies, equipment and uniforms.
4/ Figure includes estimated annual expenses for such items as personal maintenance, transportation, taxes, and insurance.

Expenses by Marital Status

With few exceptions, the average annual expenditure on all items was more for married students than for single students, and for married students with children than for married students without children. School expenses were similar for single and married students with the exception of married students, in each health profession, with two or more children in schools of allopathic medicine, osteopathy, pharmacy, and podiatry. Their school expenses were less than those of other students who were married. Although the reason for this difference is not readily apparent, it may be that married students with two or more children in the above-mentioned professions did not have the time to carry a full academic load; consequently, they experienced a reduction in credit-hour expenses (or school expenses). A larger proportion of married students with children reported that they were employed during the school year, and, on the average, they worked longer hours than other employed students of the same health profession. Table 12 is a presentation of the average annual expenses of the health professions students by marital status.

Generally, married students with children spent more each year on lodging, board, and other items than did childless married students who, in turn, spent more than single students on these same items. Differences in expenditures on lodging might be attributed to the student's choice of living quarters which varied according to the

student's marital status. A single student was more likely to live in a dormitory, a rooming house, or his/her family's home. Married students with and without children were more likely to live in school-owned apartments or privately owned apartments or houses.

In terms of the fourth category, other items, public health students who were married and had two or more children had an average annual expenditure on other items of $8,050 in contrast to approximately $4,500 spent on this category by other health professions students. This difference partly reflects the fact that public health students reported spending more money on their children's or spouse's education and on various insurance policies, such as car, house, and professional insurance than did any other group of students. This, in turn, may reflect the fact that they were older than most other health professions students and that they already had some degree. Eleven percent of public health students had professional degrees before enrolling in schools of public health. Less than 1 percent of students enrolled in the other health professions schools reported having other prior professional degrees.

Table 12: Average Annual Expenses of Health Professions Students by Expense Item and Marital Status
School Year 1976-77

Expense Item & Marital Status	Allopathic/ Medicine	Dentistry	Optometry	Osteopathy	Pharmacy	Podiatry	Public Health	Veterinary Medicine
				Average Annual Expenses				
Total Expenses all students	$ 8,530	$ 9,890	$ 8,960	$ 11,070	$ 6,740	$11,720	$10,470	$ 7,030
Single	6,970	7,900	7,000	8,680	5,420	9,190	7,230	5,380
Married - 0 children	10,770	11,930	11,620	12,590	9,820	13,690	13,520	9,260
Married - 1 child	11,170	12,190	12,000	13,160	9,290	14,890	12,890	8,940
Married - 2 or more children	12,990	13,460	12,530	14,380	10,180	13,520	16,870	9,890
School Expenses	$ 3,190	$ 3,780	$ 3,280	$ 4,030	$ 1,850	$ 4,780	$ 1,910	$ 1,890
Single	3,280	3,910	3,240	4,070	1,900	4,750	1,970	1,920
Married - 0 children	3,060	3,580	3,260	4,040	1,860	4,760	1,780	1,890
Married - 1 child	2,850	3,750	3,390	4,070	1,580	5,000	1,640	1,650
Married - 2 or more children	2,720	4,600	3,460	3,960	1,510	4,840	2,130	1,890
Lodging & Maint. of Living Qtrs.	$ 1,850	$ 1,830	$ 1,710	$ 1,980	$ 1,440	$ 2,240	$ 2,460	$ 1,440
Single	1,360	1,330	1,280	1,420	1,100	1,620	1,820	1,090
Married - 0 children	2,490	2,340	2,270	2,350	2,180	2,780	2,990	1,900
Married - 1 child	2,710	2,350	2,520	2,410	2,160	2,740	3,240	1,900
Married - 2 or more children	3,200	2,690	2,350	2,540	2,410	2,950	3,860	2,000
Board	$1,210	$ 1,240	$ 1,160	$ 1,410	$ 1,010	$ 1,330	$ 1,560	$ 1,040
Single	910	910	810	970	770	940	1,000	750
Married - 0 children	1,600	1,490	1,540	1,520	1,480	1,590	1,880	1,360
Married - 1 child	1,880	1,650	1,730	1,960	1,470	1,950	2,120	1,550
Married - 2 or more children	2,330	2,000	2,340	2,110	1,870	1,720	2,830	1,870
All Other Expenses	$ 2,280	$ 3,040	$ 2,810	$ 3,650	$ 2,440	$ 3,370	$ 4,540	$ 2,660
Single	1,420	1,750	1,660	2,220	1,650	1,880	2,440	1,620
Married - 0 children	3,620	4,520	4,550	4,670	4,300	4,560	6,870	4,110
Married - 1 child	3,730	4,440	4,360	4,720	4,080	5,200	5,890	3,840
Married - 2 or more children	4,740	4,770	4,380	5,770	4,390	4,010	8,050	4,130

1/ Estimated from data from 1974-75 and 1977-78 Survey of Medical Student Financing. See Appendix C.

Expenses by Year of Program

As can be seen in Table 13, students enrolled in the later years of their educational programs had higher expenditures than those in the earlier years. These increased expenditures were due partially to the fact that more upperclassmen were married than lower classmen, and, as mentioned earlier, married students reported higher expenditures than single students. The largest difference between first-year average total expenses and final-years average total expenses was reported by osteopathy and podiatry students. This difference was approximately $1,900. The smallest increase in average total expenses between the first and last years, about $1,000, was experienced by pharmacy and veterinary medicine students.

Unlike students in the other health professions, dental students did not follow the general pattern of increasing expenses over time. Students in the first 2 years of dental school reported higher total expenses than students in the last 2 years. This difference is because dental students, unlike other health professions students, initially have to buy expensive specialized instruments which they use throughout their educational program. First and second year students reported spending an average of $2,240 and $1,370, respectively, on instruments and equipment; students in the last 2 years spent only $510 and $370, respectively. It should be noted that expenditure data for second and third year students of allopathic medicine were the same, because the 1976-77 school year estimates were based on published data which reported information for students in the first year, intermediate year, and last year of the program.

Table 13: Average Annual Expenses of Health Professions Students by School Class and Marital Status: School Year 1976-77

School Class & Marital Status	Allopathic[2] Medicine	Dentistry	Optometry	Osteopathy	Pharmacy	Podiatry	Public Health	Veterinary Medicine
				Average Annual Expenses				
Total Expenses all classes	$ 8,530	$ 9,890	$ 8,960	$ 11,070	$ 6,740	$11,720	$10,470	$ 7,030
Single	6,970	7,510	6,790	8,520	4,970	8,730	6,830	5,300
Married - 0 children	10,780	11,780	11,430	12,450	9,610	13,680	12,790	9,200
Married - 1 child	11,180	11,950	11,890	12,860	9,070	14,450	12,700	8,880
Married - 2 or more children	12,990	12,890	12,780	14,160	9,560	13,520	15,770	10,120
1st Yr. of Program	$ 7,920	$ 9,410	$ 8,030	$ 10,000	[1]	$10,630	$ 9,780	$ 6,590
Single	6,850	7,970	6,800	8,360	-	8,840	6,910	5,320
Married - 0 children	10,890	12,350	11,680	12,300	-	13,160	13,180	9,080
Married - 1 child	11,180	12,570	11,290	11,270	-	16,440	12,150	8,850
Married - 2 or more children	14,450	15,790	9,600	14,630	-	14,400	15,320	9,720
2nd Yr. of Program[3]	$ 8,610	$ 9,930	$ 8,180	$ 10,530	$ 5,560	$10,610	$ 9,670	$ 6,590
Single	7,000	7,810	6,560	8,490	4,770	8,520	6,650	5,010
Married - 0 children	10,680	13,030	11,270	11,850	9,620	13,040	12,040	8,940
Married - 1 child	11,440	11,810	12,100	12,700	8,400	14,730	14,060	9,070
Married - 2 or more chilren	12,900	12,670	11,840	14,780	9,710	13,450	15,640	10,770
3rd Yr. of Program[3]	$ 8,610	$ 8,740	$ 9,330	$ 11,450	$ 6,220	$11,600	$ 10,620	$ 7,280
Single	7,000	6,540	7,130	8,910	5,130	8,440	6,950	5,370
Married - 0 children	10,680	11,330	11,530	12,600	9,950	14,100	13,620	9,740
Married - 1 child	11,440	10,090	12,170	13,300	9,150	13,130	12,810	9,180
Married - 2 or more children	12,900	12,140	13,090	13,840	8,660	13,350	17,890	9,360
Last Years	$ 9,160	$ 9,240	$ 9,300	$ 11,930	$ 6,620	$12,540	$ 11,030	$ 7,400
Single	7,120	6,700	6,740	8,540	5,080	9,320	7,060	5,640
Married - 0 children	10,870	10,660	11,240	13,290	9,380	14,400	12,830	9,000
Married - 1 child	10,920	12,330	12,180	13,790	9,370	14,290	11,180	8,600
Married - 2 or more children	12,620	11,030	13,690	13,850	9,980	12,930	17,750	10,560

1/ Pharmacy schools have 3-, 4-, or 5-year programs. The last 3 years of pharmacy programs represent their professional training period.
2/ Estimated from 1974-75 and 1977-78 Survey of Medical Student Financing. See Appendix C.
3/ Data for allopathic medicine students available for first year of program, intermediate years and last years.

Expenses by Geographic Region

Additional factors contributing to differences among the health professions students' average annual total educational expenses were control or affiliation of the health profession school and the geographic division of the United States in which the school was located. Table 14 presents the average annual expenses for health professions students by geographic region of the United States and school control. The geographic regions of the United States used here are those defined by the Bureau of the Census. A comparison of average annual expenses by geographic region shows that, generally, the highest expenditures were reported by health professions students enrolled in schools located in the Northeast. This may reflect the fact that in 1977 the U.S. Department of Labor reported that the northeastern region had the highest cost of living for the entire United States. Since average total annual expenses for all students in each health profession by geographic region are a weighted average for expenses of students enrolled in both public and private schools, it is important to consider the proportionate representation of public or private students when comparing total annual expenses by geographic region. In all health professions, average annual expenses in each geographic region were higher for students in private schools than those in public schools. As stated earlier, higher tuitions charged by private schools contributed significantly to this difference.

Table 14: Number of Health Professions Students and Average Annual Expenses by School Control and Geographic Region: School Year 1976-77

School Control & Geographic Region	Allopathic[1] Medicine	Dentistry	Optometry	Osteopathy	Pharmacy	Podiatry	Public Health	Veterinary Medicine
Number of Students								
All Schools	58,000	18,300	3,960	3,010	21,870	2,140	5,590	6,210
Public Schools	33,470	11,910	1,480	535	14,550	— [2]	4,020	5,940
Private Schools	24,530	6,390	2,480	2,475	7,320	2,140	1,570	270
Average Annual Expenses								
Total Expenses								
All Schools	$ 8,530	$ 9,890	$ 8,960	$11,070	$ 6,740	$11,720	$10,470	$ 7,030
U.S. Possessions	-	8,730	-	-	5,530	-	-	-
Northeast	9,570	9,790	9,410	10,840	9,560	11,980	11,330	9,340
South	8,080	9,280	9,860	9,770	6,210	-	10,920	6,600
North Central	8,260	10,140	7,870	11,460	6,650	11,350	10,380	6,970
West	8,030	10,380	9,140	-	7,120	12,440	9,390	6,910
Total Expenses								
Public Schools	$ 7,460	$ 9,060	$ 7,120	$ 9,540	$ 5,830	$ - [2]	$ 9,650	$ 6,860
U.S. Possessions	-	8,730	-	-	5,530	-	-	-
Northeast	7,100	9,790	8,800	-	-	-	8,220	7,710
South	7,520	8,850	8,020	7,980	5,730	-	9,970	6,575
North Central	7,620	8,680	6,580	10,080	6,260	-	10,380	6,970
West	7,590	9,100	6,930	-	5,900	-	9,190	6,910
Total Expenses								
Private Schools	$ 10,090	$ 6,390	$10,060	$ 2,475	$ 7,320	$11,720	$12,500	$10,830
U.S. Possessions	-	-	-	-	-	-	-	-
Northeast	10,550	-	9,510	10,840	9,560	11,980	13,210	11,350
South	9,050	9,890	10,900	10,470	8,160	-	12,210	8,010
North Central	9,600	11,770	9,540	11,820	6,930	11,350	-	-
West	10,130	13,400	10,130	-	9,970	12,440	11,690	-

1/ Estimated from data from 1974-75 and 1977-78 Survey of Medical Student Financing. See Appendix C.
2/ There are no public schools of podiatry.

IV. Income of Students

Sources of Income

Health professions students were asked to report how they financed their education during school year 1976-77 by giving the source(s) of income and the amounts obtained from each source. These sources were classified as nonrefundable, that is, no repayment obligation to the student, and refundable, that is, repayment required. Nonrefundable sources are sources such as earnings, savings, family contributions, scholarships and military benefits; refundable sources are loans from students' families, the Federal and State Governments, banks, foundations, and other sources.

Table 15 presents the proportion of health professions students who reported any income from a specific source. Not all students reported income from each of the sources listed as refundable or nonrefundable. The most frequently reported sources of nonrefundable income were the students' own earnings and savings, their parents, and their spouses' contributions. With the exception of public health students, the most frequently reported specific sources of refundable income were Federal health professions direct student loans and family loans. Students reported income from many other refundable sources but too infrequently to itemize them separately. These sources have been combined and presented as "other sources" in Table 15. It should be noted that income information for students of allopathic medicine for school year 1976-77 was not available.

Table 15: Proportion of Health Professions Students Who Reported Income From Various Sources: School Year 1976-77[1/]

Source of Income	Dentistry	Optometry	Osteopathy	Pharmacy	Podiatry	Public Health	Veterinary Medicine
			Percent reporting some income from source				
NonRefundable Sources							
Own Earnings & Savings	69	86	64	85	78	81	89
Spouse's Contribution	36	34	40	20	43	31	35
Parent's Contribution	52	55	42	61	50	25	56
Armed Forces Pay	5	4	10	2	1	3	3
Federal Health Professions Scholarship	4	3	4	5	2	5	3
Robert Wood Johnson Scholarship	2	-	4	-	-	1	-
Other Scholarships[2/]	7	10	6	10	6	4	10
School Grants	8	8	5	11	2	16	12
VA Benefits	6	7	10	6	5	6	8
PHS Scholarships[3/]	1	0[8/]	10	0[8/]	0[8/]	31	0[8/]
AF Health Professions Scholarships	5	3	11	0[8/]	0[8/]	0[8/]	2
Other Income[4/]	28	33	30	35	32	36	33
Refundable Sources							
Federal Health Professional Direct Student Loans	25	26	21	19	30	2	22
Office of Education Loans[5/]	6	8	3	4	8	6	5
Guaranteed School Loan	2	0[8/]	2	0[8/]	-	0[8/]	-
Private Bank Loans	5	3	4	2	4	1	5
Guaranteed Student Bank Loans	5	5	7	3	5	2	5
Robert Wood Johnson Loans	3	2	3	1	4	1	1
Family Loans	18	14	16	7	18	6	12
Private Source Loan[6/]	34	33	37	13	60	6	16
Other Loans[7/]	21	11	19	10	14	8	11

1/ Data not available for students of allopathic medicine.
2/ Includes State government scholarships, State professional society scholarships, foundation scholarships.
3/ Includes Public Health Service scholarships and NIH/PHS supported fellowships, traineeships, grants.
4/ Includes gifts, National Medical Fellowship, and other nonrepayable income.
5/ Includes National direct student loans/National Defense, and Office of Education student loans.
6/ Includes school loans not guaranteed by government, professional foundation loans, personal loans, and others.
7/ Includes loans from insurance companies and commercial loan companies.
8/ Less than .5 percent reported income from this source.

Proportionate Contribution of Income Sources

A health profession student may finance all or part of his/her education with funds from one or more of the various sources. The proportionate contributions of the various nonrefundable and refundable sources to the average health professions student's total income are given in Table 16. With the exception of public health students, there was a direct correlation between the size of students' total educational expenditures and the proportion of their total income from refundable sources. That is, the higher the students' expenditures, the more likely they were to borrow money. The highest average annual expenditures of $11,720 were reported by podiatry students; they borrowed 31 percent of their total income. Pharmacy students, with total annual expenditures of only $6,740, borrowed only 12 percent of their total income.

Generally, health professions students relied on their own earnings and savings and their spouses' and parents' contributions for the largest proportion of their total income. Public health students obtained 11 percent of their income from Public Health Service scholarships whereas students in the other health professions, with the exception of osteopathy, obtained 1 percent of their income or less from this source. When obtaining funds from refundable sources, most health professions students utilized the Federal health professions direct student loan program or their own families. Of all the health professions, dentistry students obtained the highest proportion of their income from these sources and public health students the least. Loans from private financial sources provided 18 percent of podiatry students' and 8 percent of dentistry, optometry, and osteopathy students' total income.

Table 16: Percent of Health Professions Students' Income From Nonrefundable and Refundable Sources School Year 1976-77[1/]

Source of Income	Dentistry	Optometry	Osteopathy	Pharmacy	Podiatry	Public Health	Veterinary Medicine
Total Percent	100	100	100	100	100	100	100
All Nonrefundable Sources	73	79	78	88	69	96	83
Own Earnings & Savings	14	18	13	31	16	36	22
Spouse's Contribution	27	28	25	19	29	26	26
Parent's Contribution	15	17	13	19	14	4	15
Armed Forces Pay	2	1	3	1	0[7/]	2	1
Armed Forces Health Professions Scholarships	3	2	5	0[7/]	0[7/]	0[7/]	1
Veterans Benfits	2	2	2	2	1	1	3
Other Scholarships[2/]	3	4	3	8	2	3	7
FHP/PHS Scholarships[3/]	1	0[7/]	7	1	0[7/]	11	0[7/]
School Grants	1	1	1	1	0[7/]	3	1
Other[4/]	5	6	6	6	6	10	7
All Refundable Sources	27	21	22	12	31	4	17
Federal health professions direct student Loans	5	4	2	3	3	0[7/]	4
Office of Education Loans[5/]	2	2	1	1	1	1	1
Family Loans	6	4	5	2	4	1	4
Guaranteed School/ Bank Loans	1	1	2	1	1	0[7/]	1
Private Bank Loans	1	0[7/]	1	0[7/]	1	0[7/]	1
Robert Wood Johnson Loans	0[7/]	0[7/]	0[7/]	0[7/]	1	0[7/]	0[7/]
Private Financial Sources	8	8	8	3	18	1	4
Other[6/]	4	2	3	2	2	1	2

1/ Data not available for students of allopathic medicine.
2/ Includes State government scholarships, State professional society scholarships, foundation scholarships.
3/ Includes Public Health Service scholarships; NIH/PHS supported fellowships, traineeships, grants; and Federal health professions scholarships.
4/ Includes gifts, National Medical Fellowship and other nonrefundable funds.
5/ Includes National direct student loans/National Defense, and Office of Education student loans.
6/ Includes school loans, professional foundation loans.
7/ Less than .5 percent reported.

A comparison of the sources of income of students in the eight health professions indicates that public health students' sources were quite different from those of the others. The proportionate contribution of the sources of income to the public health student's total income is quite different from that of the other students. Public health students borrowed only 4 percent of their annual income because they were able to finance most of their education from nonrefundable sources. They obtained 62 percent of their total income from their own and their spouses' earnings and savings--the highest percentage of any group of health professions students. Public health students received only 4 percent of their income from their parents, whereas students in the other health professions obtained 13 to 19 percent of their income from this source. Of all the health professions students, public health students reported the highest average amounts of income from their own earnings ($6,110), from their spouses' earnings ($11,710), and from armed forces pay ($9,000). This may have occurred because many public health students enrolled in school after they had completed a professional degree and had worked for some time. In many cases, students who were employed in a health-related occupation or were in the military continued to draw all or part of their annual salary while they were enrolled in a school of public health.

Nonrefundable Sources of Income

The single largest source of nonrefundable income for the married student in each health profession was the student's spouse who contributed between $6,000 and $12,000. Scholarships were the next largest source of income for students in each of the professions. Each group of health professions students received different amounts from a particular scholarship fund. The average amount reported by scholarship students was related to the particular interest of that scholarship program. Public health students received an average amount of $13,350 from the Robert Wood Johnson Scholarship program while other recipients received less than $1,000 from that source. Students of dentistry and osteopathy received $5,470 and $8,040, respectively, from Public Health Service or National Institutes of Health scholarships, grants, or traineeships--more than any other health professions students received from those sources. Public health students received $9,025 from the Armed Forces health professions scholarships, while pharmacy students received less than $2,000 from that source. The average amounts of income which students received from nonrefundable sources are shown in Table 17.

Table 17: Average Amount of Nonrefundable Income of Health Professions Students Who Reported Income From Various Sources: School Year 1976-77[1/]

Source of Income	Dentistry	Optometry	Osteopathy	Pharmacy	Podiatry	Public Health	Veterinary Medicine
				Average Amount			
Nonrefundable Income	$ 8,230	$ 7,540	$ 9,510	$ 6,260	$ 9,270	$13,300	$ 6,840
Own Earnings & Savings	$ 2,260	$ 1,990	$ 2,380	$ 2,550	$ 2,710	$ 6,110	$ 2,080
Spouse's Contribution	8,470	7,840	7,340	6,760	8,570	11,710	6,020
Parent's Contribution	3,240	2,760	3,420	2,270	3,550	1,790	2,110
Armed Forces Pay	3,270	3,160	3,710	3,430	1,940	10,660	3,980
Federal Health Professions Scholarship	1,380	1,190	1,530	760	1,530	3,270	750
Robert Wood Johnson Scholarship	610	-	460	300	-	13,350	-
Other Scholarships[2/]	4,680	3,460	6,950	5,280	3,670	7,480	5,800
School Grants	1,220	1,210	1,370	830	1,600	2,580	750
VA Benefits	3,170	2,880	3,350	2,650	3,100	2,950	2,850
PHS/NIH Scholarships[3/]	5,480	1,480	8,040	530	1,180	4,010	2,990
AF Health Professions Scholarships	6,310	5,480	5,990	1,980	5,670	9,020	4,500
Other Income[4/]	1,890	1,720	2,490	1,200	3,550	3,770	1,650

1/ Data not available for students of allopathic medicine.
2/ Includes State government scholarships, State professional society scholarships, foundation scholarships.
3/ Includes Public Health Service scholarships and NIH/PHS supported fellowships, traineeships, grants.
4/ Includes gifts, National Medical Fellowship, and other nonrepayable income.

The various nonrefundable sources, which compositely represented 69 to 96 percent of the students' total income, were utilized quite differently by married and single students. Married students without children reported that their spouses contributed about 50 percent of their annual income, and married students with children reported that their spouses contributed between 20 and 40 percent of their total income. Single students relied more heavily on their parents for financial assistance than did married students. Single students reported that 25 percent of their total income came from their parents. Also, single students were more likely to rely on their own earnings and scholarships to finance their education than married students. The proportions of the health professions students' total income from nonrefundable sources by marital status are depicted in Table 18.

One of the major sources of funds used by the students to finance their education was earnings from current or past employment. Students were asked to report if they were employed during the school year and, if employed, the number of hours they worked. Generally, more upperclassmen than lower classmen reported that they were employed during the school year. Married students with two or more children worked from 12 to 19 hours more per week than did single students. In Chapter III it was reported that upperclassmen and married students had higher total expenditures; thus, it is not unusual to find that more of these students were employed and were working more hours. The proportions of students, by year in program and marital status, who reported that they were employed during school year 1976-77 together with the median number of hours they worked per week are given in Tables 19 and 20.

Table 18: Proportion of Health Professions Students' Total Income From Nonrefundable sources by Marital Status School Year 1976-77[1/]

Source and Marital Status	Dentistry	Optometry	Osteopathy	Pharmacy	Podiatry	Public Health	Veterinary Medicine
			Percent of Total Income				
All Non-Refundable Sources							
All Students	73	79	78	88	69	96	83
Single	62	71	70	86	59	93	77
Married - 0 children	83	88	85	92	77	98	90
Married - 1 child	72	84	79	89	77	97	82
Married - 2 or more children	72	73	78	92	63	96	87
Own Earnings & Savings							
All Students	14	18	13	31	16	36	22
Single	17	24	17	34	22	46	29
Married - 0 children	12	13	9	22	11	28	17
Married - 1 child	11	13	17	33	17	39	17
Married - 2 or more children	15	25	11	33	17	34	22
Spouse's Contribution							
All Students	27	28	25	19	29	26	26
Single	-	-	-	-	-	-	-
Married - 0 children	53	56	48	53	53	48	51
Married - 1 child	34	42	26	32	39	27	39
Married - 2 or more children	24	18	24	29	22	28	25
Parent's Contribution							
All Students	15	17	13	19	14	4	15
Single	27	30	25	29	24	7	26
Married - 0 children	8	6	6	7	6	2	6
Married - 1 child	6	5	4	5	11	1	5
Married - 2 or more children	3	3	5	3	10	0[5/]	7
Armed Forces Benefits[2/]							
All Students	5	3	8	1	1	2	2
Single	4	3	7	1	1	1	1
Married - 0 children	3	2	6	1	0	2	2
Married - 1 child	8	5	11	1	1	4	2
Married - 2 or more children	18	5	17	9	2	5	10
Veterans Benefits							
All Students	2	2	2	2	1	1	3
Single	1	1	1	2	1	1	1
Married - 0 children	1	2	2	2	2	1	2
Married - 1 child	3	4	4	7	2	3	7
Married - 2 or more children	8	10	7	11	4	3	10
Scholarships[3/]							
All Students	3	4	3	8	2	3	7
Single	5	5	4	10	3	4	10
Married - 0 children	2	3	4	3	1	2	5
Married - 1 child	4	3	4	3	1	4	3
Married - 2 or more children	2	4	1	4	2	3	4
Other[4/]							
All Students	7	7	14	8	6	24	8
Single	8	8	16	10	8	34	10
Married - 0 children	4	6	10	4	4	15	7
Married - 1 child	6	12	13	8	6	19	9
Married - 2 or more children	7	8	13	3	6	23	4

1/ Data not available for students of allopathic medicine.
2/ Includes Armed Forces Pay and AF health professions scholarships.
3/ Includes State government scholarships, State professional society scholarships, foundation scholarships.
4/ Includes gifts, Public Health Service Scholarships, NIH/PHS supported fellowships, and other nonrefundable fund sources.
5/ Less than .5 percent reported.

Table 19: Median Hours Worked Per Week By Health Professions Students by Marital Status: School Year 1976-77[1/]

Marital Status	Dentistry	Optometry	Osteopathy	Pharmacy	Podiatry	Public Health	Veterinary Medicine
				Median Hours Worked			
All Students	12	10	10	17	15	20	10
Single	12	9	9	15	15	19	10
Married - 0 children	12	10	9	20	15	20	9
Married - 1 child	10	12	12	20	18	20	10
Married - 2 or more children	16	15	12	24	19	29	12

1/ Data not available for students of allopathic medicine by marital status. Median hours worked in 1974-75 by these students was 10 hours, reported in DHEW Publication (HRA) 76-94.

Table 20: Proportion of Health Professions Students Who Worked During School Year 1976-77 By Year in Program[1/]

Year in Program	Dentistry	Optometry	Osteopathy	Pharmacy[2/]	Podiatry	Public Health	Veterinary Medicine
				Percent Who Worked			
All Students	26	35	20	49	39	48	25
First Year of Program	12	22	16	-	23	44	15
Second Year of Program	28	34	22	37	39	51	35
Third Year of Program	34	41	22	53	48	59	30
Last Years of Program	38	45	58	58	55	60	19

1/ Data not available for students of allopathic medicine.
2/ Pharmacy schools have 3-, 4-, or 5-year programs. Schools with 3-year programs require 2 years of college for admissions; schools with 5-year programs admit students after completing high school. The last 3 years of pharmacy program represent their professional training period.

Refundable Sources of Income

Health professions students financed their education in part by obtaining loans from various sources. The most frequently reported refundable source of income was the Federal health professions direct student loan program which provided funds to 39 percent of the students who had loans. The second most frequently reported refundable source was family loans, which provided funds to approximately 23 percent of the students who had loans. The average amount provided by the Federal health professions loan program varied among the health professions. The smallest amount, $1,030, was reported by pharmacy students and the largest amount, $2,170, by dentistry students. Although fewer students borrowed money from their families than from the Federal health professions direct student loan program, the average amount they borrowed from their families was larger. The smallest average amount of family loans was $1,860 reported by public health students, and the largest, $3,760, was reported by dental students. The average amounts borrowed by the health professions students from the various refundable sources during the 1976-77 school year are shown in Table 21.

With the exception of public health and pharmacy students, more than half of the students had to obtain one or more loans to meet their 1976-77 school year expenses. Married students with children were more likely than others to finance their education with loans. Fewer public health and pharmacy students obtained loans probably because many of them received a large portion of their income from nonrefundable sources, in particular their own earnings and savings. The proportions of students by marital status who were obligated by any size loan during school year 1976-77 are given in Table 22.

Table 21: Average Amount of Refundable Income of Health Professions Students Who Reported Income From Various Sources: School Year 1976-77

Source of Income	Dentistry	Optometry	Osteopathy	Pharmacy	Podiatry	Public Health	Veterinary Medicine
				Average Amount			
Refundable Income	$ 4,370	$ 3,220	$ 4,230	$ 1,980	$ 4,960	$ 2,420	$ 2,680
Federal Health Professional Direct Student Loans	$ 2,170	$ 1,420	$ 1,400	$ 1,030	$ 1,290	$ 2,000	$ 1,460
Office of Education Loans[2/]	2,530	1,810	2,020	1,330	1,830	1,580	1,580
Guaranteed School Loan	990	2,000	900	1,000	-	760	-
Private Bank Loans	1,850	1,230	1,770	1,100	2,020	670	1,650
Guaranteed Student Bank Loans	2,780	2,220	3,460	1,750	2,630	2,320	1,980
Robert Wood Johnson Loans	1,790	1,660	1,640	1,110	2,260	2,030	1,670
Family Loans	3,760	2,960	3,680	1,960	3,130	1,860	2,500
Private Source Loan[3/]	2,480	2,140	2,440	1,720	3,730	1,940	1,970
Other Loans[4/]	2,230	1,680	2,420	1,290	2,300	2,120	1,770

1/ Data for students of allopathic medicine not available.
2/ Includes National direct student loans/National Defense loans and Office of Education student loans.
3/ Includes loans from insurance companies and commercial loan companies.
4/ Includes school loans not guaranteed by government, professional foundation loans, personal loans, and others.

Table 22: Proportion of Health Professions Students With and Without Loans by Marital Status
School Year 1976-77[1/]

Marital Status	Dentistry		Optometry		Osteopathy		Pharmacy		Podiatry		Public Health		Veterinary Medicine	
	with loans	without loans	with loans	without loans	with loans	without loans	with loans	without loans	with loans	without loans	with loans	without loans	with loans	without loans
All Students = 100%	67	33	61	39	62	38	42	58	79	21	25	75	52	48
Single	66	34	61	39	61	39	40	60	76	24	30	70	51	49
Married, 0 children	64	36	59	41	62	38	46	54	82	18	17	83	47	53
Married, 1 child	78	22	65	35	67	33	53	47	77	23	23	77	65	35
Married, two or more children	74	26	78	22	63	37	42	58	96	4	20	80	71	29

1/ Data not available for students of allopathic medicine.

More students who came from families with incomes less than $15,000 reported that they had one or more loans than did students whose family incomes were over that amount. This is not surprising because families in the higher income levels were more likely to give financial assistance to their children than families in the lower income levels. For example, 96 percent of podiatry students whose family incomes were less than $5,000 reported having loans while only 36 percent of those students with family incomes over $50,000 reported having loans. Public health students were the only group whose family income level did not affect their indebtedness. Approximately one-fourth of public health students in each family income group reported having loans. Table 23 is a presentation of the distribution by parents' or family income of students who reported that they had one or more loans during the 1976-77 school year and of the students who had no loans.

As indicated earlier, health professions students enrolled in private schools reported that their annual total expenditures were between 20 and 50 percent higher than those of students in public schools. In addition, a higher proportion of students in private schools reported using refundable sources for their income than did public school students. Between 50 and 80 percent of students in private health professions schools, other than pharmacy and public health, reported that they had loans during the 1976-77 school year. Fewer public health students in either public or private schools had loans, which can be attributed to the fact that they obtained a large part of their annual income from nonrefundable sources. The proportion of students in public and private schools who reported having loans during school year 1976-77 are given in Table 24.

Table 23: Percent Distribution of Health Professions Students With and Without Loans by Family Income: School Year 1976-77[1/]

Health Profession	Less Than $5,000	$5,000 - 9,999	$10,000 - 14,999	$15,000 - 19,999	$20,000 - 24,999	$25,000 - 49,999	$50,000 or more
				Percent of Income Group			
Dentistry,							
All Students	100	100	100	100	100	100	100
- With Loans	66	80	80	71	75	56	38
- Without Loans	34	20	20	29	25	44	62
Optometry,							
All Students	100	100	100	100	100	100	100
- With Loans	83	79	76	73	59	41	32
- Without Loans	17	21	24	27	41	59	68
Osteopathy,							
All Students	100	100	100	100	100	100	100
- With Loans	80	80	73	59	67	56	38
- Without Loans	20	20	27	41	33	44	62
Pharmacy,							
All Students	100	100	100	100	100	100	100
- With Loans	54	52	54	47	34	24	13
- Without Loans	46	48	46	53	66	76	87
Podiatry,							
All Students	100	100	100	100	100	100	100
With Loans	94	89	90	87	78	68	36
- Without Loans	6	11	10	13	22	32	64
Public Health,							
All Students	100	100	100	100	100	100	100
- With Loans	24	25	25	30	26	23	19
- Without Loans	76	75	75	70	74	77	81
Veterinary Med.,							
All Students	100	100	100	100	100	100	100
- With Loans	69	73	63	52	52	36	31
- Without Loans	31	27	37	48	48	64	69

1/ Data not available for students of allopathic medicine.

Table 24: Proportion of Health Professions Students With Loans by School Control: School Year 1976-77[1/]

Health Profession	Number of Students in Public Schools	Number of Students in Private Schools	Percent of Public School Students with Loans	Percent of Private School Students with Loans
Dentistry	11,910	6,390	64	72
Optometry	1,480	2,480	52	67
Osteopathy	535	2,475	61	63
Pharmacy	14,550	7,320	35	53
Podiatry	- [2/]	2,140	- [2/]	79
Public Health	4,020	1,570	23	32
Veterinary Medicine	5,940	270	51	78

1/ Data not available for students of allopathic medicine.
2/ There are no public schools of podiatry.

Of the health professions students who reported borrowing funds from any refundable source during the 1976-77 school year, more than 80 percent received funds from only one or two sources. More students of dentistry, osteopathy, and podiatry reported borrowing funds from three or more refundable sources than did students in the remaining professions. The Federal health professions loan program, which was the most frequently reported source of refundable income, provided funds to approximately 39 percent of the students who borrowed money. Information on the proportion of students reporting loans and on the number of loans reported is given in Table 25.

Over three-fifths of the students who borrowed funds through the Federal health professions loan program also used other sources of refundable funds. Table 26 is a presentation of the average amounts borrowed by the health professions students from a single source or from a combination of sources. If the student reported having multiple loans and if one of those loans was from the Federal health professions loan program, the average amount of the Federal health professions loan is given in Table 26 in parenthesis below the average total amount borrowed by students from the multiple sources. If the student did not use the Federal health professions loan program but had multiple loans, the average total amount borrowed is given in Table 26 as "all other combinations." The Federal health professions loan program provided similar amounts to students in all health professions whether they borrowed money from only the Federal health professions loan program or from that program and other sources. Pharmacy students borrowed the smallest average amount from the Federal health professions loan program, and dental students borrowed the largest amount.

Table 25: Percent Distribution of Health Professions Students by Number of Loans: School Year 1976-77[1/]

Number of Loans	Dentistry	Optometry	Osteopathy	Pharmacy	Podiatry	Public Health	Veterinary Medicine
Total Percent	100	100	100	100	100	100	100
No Loans	33	39	37	58	21	75	48
One Loan	32	30	28	28	33	18	34
Two Loans	21	24	22	11	31	6	12
Three Loans	10	6	9	2	13	1	4
Four or More Loans	4	1	4	1	2	-	2
Total Number of Students	18,300	3,960	3,010	21,870	2,140	5,590	6,210

1/ Data not available for students of allopathic medicine.

Table 26: Number of Loans and Average Amount Borrowed From Each Source by Health Professions Students: School Year 1976-77

Source(s) of Loan(s)	Dentistry	Optometry	Osteopathy	Pharmacy	Podiatry	Public Health	Veterinary Medicine
Single Loan from one of the below:							
Federal Health Professions direct student loans	$ 2,440	$ 1,800	$ 1,750	$ 1,060	$ 1,340	$ 1,590	$ 1,670
Office of Education Loans	3,440	1,900	2,490	1,110	3,690	1,600	1,560
Guaranteed School Loans	1,680	-	-	-	-	-	-
Private Bank Loans	1,940	1,510	1,710	1,160	2,560	760	1,260
Guaranteed Student Bank Loans	2,530	2,510	4,500	2,110	2,340	1,920	2,600
Robert Wood Johnson Loans	2,930	2,110	-	1,640	2,140	2,090	1,690
Family Loans	4,690	3,530	4,850	2,390	4,840	2,170	2,990
Other Loans	2,530	2,100	2,300	1,500	3,720	2,100	1,970
Two Loans							
Federal Health Professions direct student and one other	$ 4,440	$ 3,330	$ 4,030	$ 2,460	$ 5,630	$ 4,650	$ 3,340
(Amount of FHP Loan)	(2,180)	(1,290)	(1,290)	(950)	(1,180)	(2,150)	(1,470)
All other combinations	5,140	4,230	4,900	2,850	5,530	3,310	2,990
Three Loans							
Federal Health Professions direct student and two others	$ 6,610	$ 5,120	$ 6,240	$ 3,850	$ 6,560	$ 4,900	$ 4,820
(Amount of FHP Loan)	(2,250)	(1,425)	(1,340)	(1,130)	(1,240)	(1,800)	(1,110)
All other combinations	7,610	4,980	6,170	3,770	5,730	4,000	3,710
Four Loans							
Federal Health Professions direct student and three others	$ 6,740	$ 6,890	$ 7,260	$ 6,020	$ 9,710	$ 7,150	$ 6,620
(Amount of FHP Loan)	(1,440)	(1,140)	(1,480)	(1,100)	(3,020)	(3,170)	(1,100)
All other combinations	6,380	6,750	8,460	4,380	6,800	12,240	-
Five or More Loans							
Federal health professions direct student and four others	$ 7,740	$ 3,780	$ 6,586	$ 9,590	$ 8,810	$ -	$ 5,740
(Amount of FHP Loan)	(2,010)	(660)	(1,480)	(1,080)	(750)	-	(910)
All other combinations	10,100	9,600	-	-	-	-	-

1/ Data not available for students of allopathic medicine.

V. Indebtedness of Students

Definition of Debt

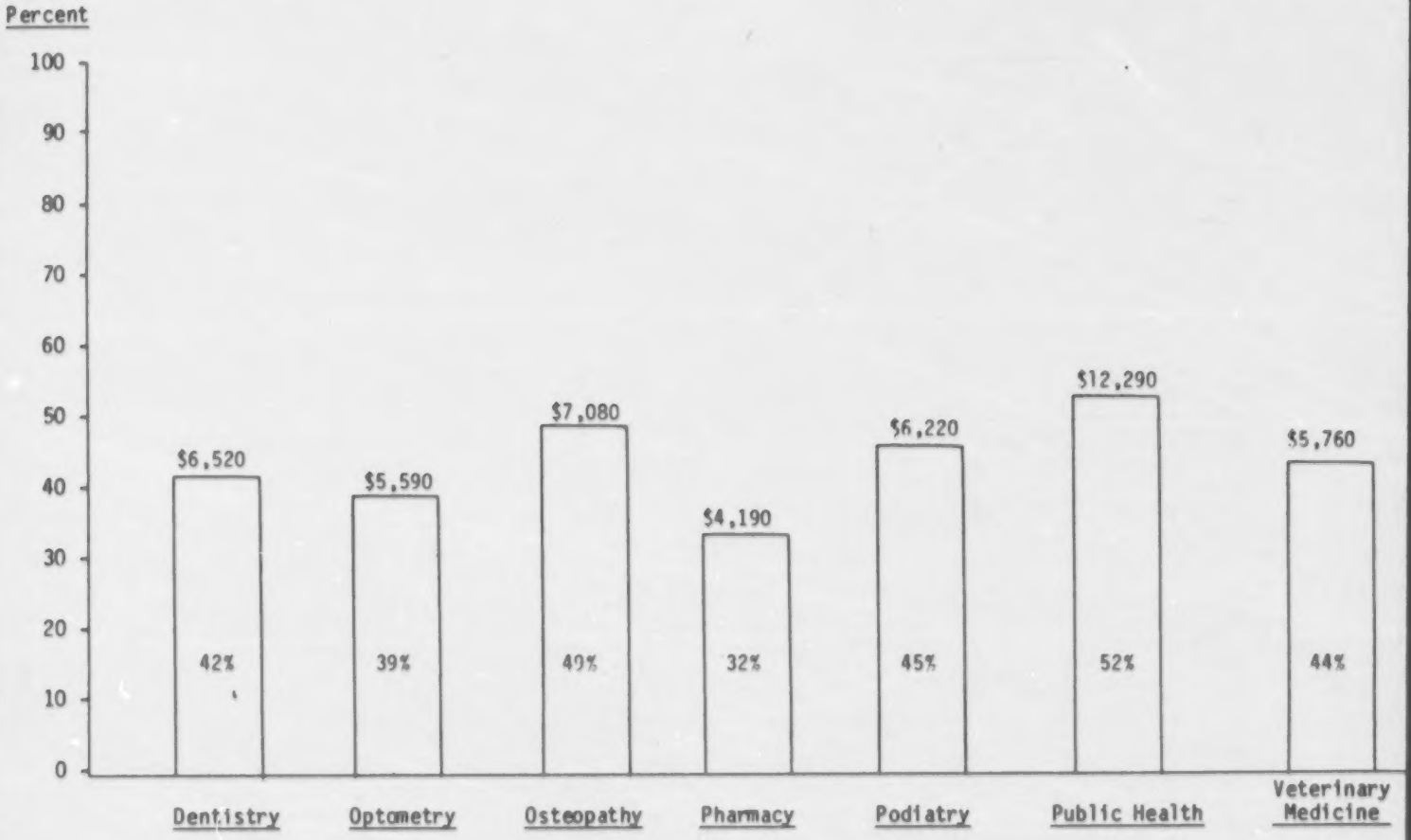
The expenses associated with obtaining an education frequently exceed a student's income, so a student may choose to finance all or part of that education with borrowed funds. To determine the average amount of indebtedness incurred by the health professions students, the students participating in the 1977 survey were asked to report the amount of debt they incurred prior to entering professional school, the total amount they owed as of June 1977, and to estimate the debts they expected to accrue by the time they graduated from professional school. Prior indebtedness included financial obligations for preprofessional school educational expenditures, for home mortgages, and for other items such as children's and/or spouse's education, automobile loans, and medical expenses. Current indebtedness as of June 1977 included the total of unpaid prior debts and of any debts incurred since entering professional school.

Prior Debt

Approximately 40 percent of all health professions students reported being in debt prior to entering professional school with an average debt of $7,000. Of those students who reported prior indebtedness, most were in debt because of preprofessional school educational expenditures. A larger proportion of public health students than students of the other health professions reported indebtedness for a home mortgage.

The proportion of health professions students who reported that they were in debt prior to entering professional school and the average total amount of that debt are shown in Figure 5. The proportions of health professions students reporting prior debt and the average amounts of that debt varied widely between disciplines. Before beginning professional school, only 32 percent of pharmacy students were indebted; on the other hand, 52 percent of public health students reported having prior debts. The average amount of prior debt was between $4,190, reported by pharmacy students, and $12,290, reported by public health students. A major part of the student's prior debt was educational expenditures. The amount of prior educational debt reflected the health professions school's admission requirement. For example, pharmacy schools admit students after completing 2 years of undergraduate school, while public health schools require at least a baccalaureate degree for admission. It should also be noted that nearly one-third of indebted public health students had home mortgages averaging about $27,000, and about one-half had an average debt of $4,100 for other items such as car loans, spouse's and children's education.

Figure 5: Proportion of Health Professions Students Reporting Indebtedness Prior to Entering Professional School and Average Amount of Debt: School Year 1976-77[1/]



1/ Data not available for students of allopathic medicine.

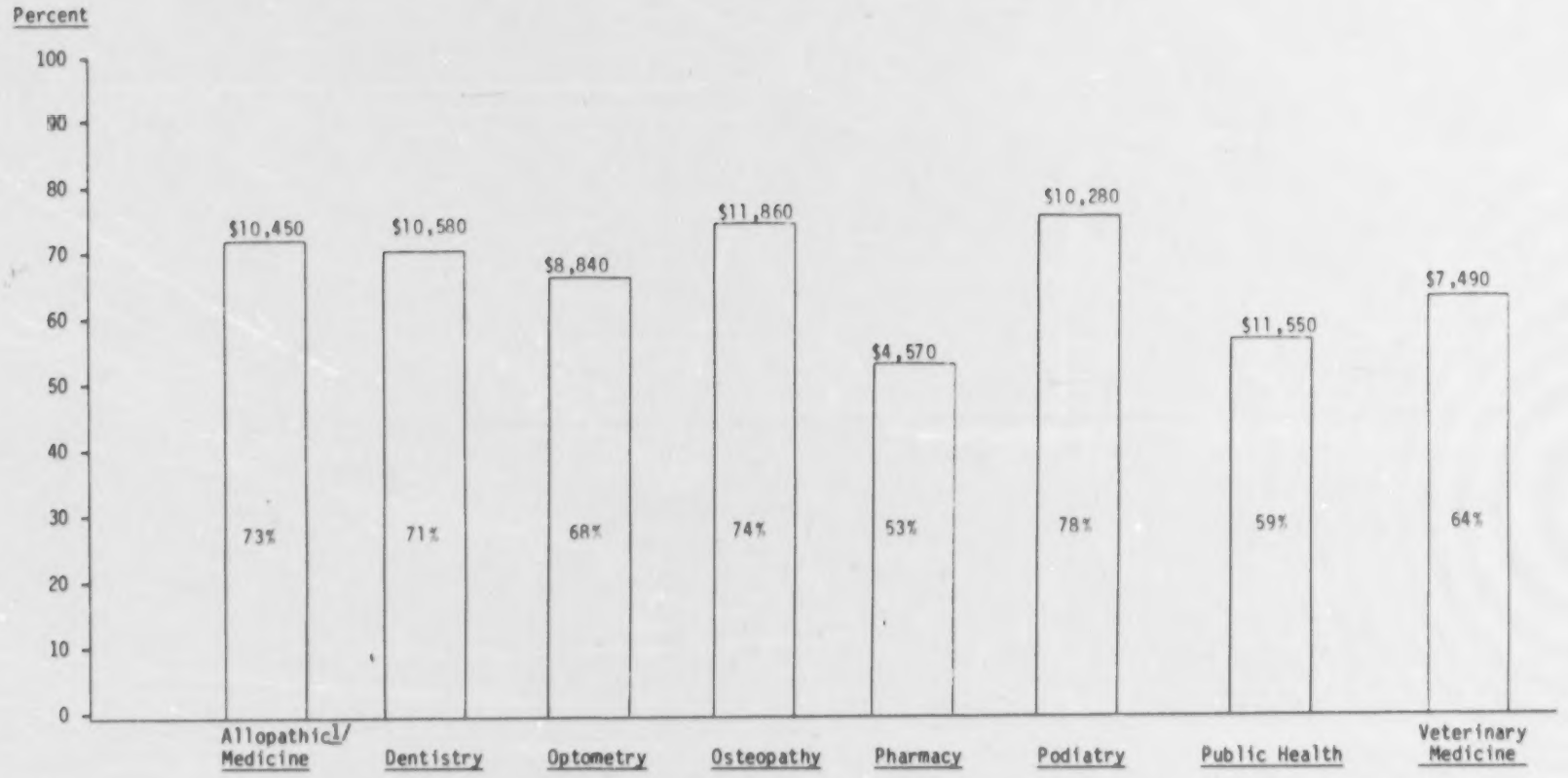
Current Debt

The proportions of health professions students indebted as of June 1977 and the average amount of that debt are given in Figure 6. (Information given in this table for allopathic medicine students is for 1977 and not for 1976.) A comparison of Figure 5 and Figure 6 reveals what happened to the students' indebtedness after they had attended professional school for some length of time. As could be expected, generally more students were indebted and for a higher average amount. Public health students were the exception. Although more of these students reported being in debt, the average amount of public health students' debt decreased because new debtors reported debts which were below the average debts of students with prior debts.

Podiatry and dentistry students experienced similar increases in the average amount of their current debt over their average prior debt, but a larger proportion of podiatry students than dentistry students became indebted during this period. Since podiatry students reported the highest average annual total expenditures, it is not surprising to find that podiatry students changed their indebtedness status more than did students of any of the health professions.

The current indebtedness status of health professions students was closely correlated with the length of time in program and marital status. Upperclassmen reported higher average amounts of current indebtedness than those reported by lower classmen, and more married students reported having current debts than did single students. This can be seen in Tables 27 and 28 which, respectively, present the proportions of health professions students currently indebted as of June 1977 and the average amount of debt by marital status and year in program.

Figure 6: Proportion of Health Professions Students Reporting Current Debt As Of June 1977 and Average Amount of Debt



1/ Reported June 1978: Studies of Medical Student Financing 1977-78, preliminary report, Association of American Medical Colleges.

Table 27: Proportion of Health Professions Students Currently Indebted and Average Amount of Debt by Marital Status, Reported June 1977[1/]

Marital Status	Dentistry	Optometry	Osteopathy	Pharmacy	Podiatry	Public Health	Veterinary Medicine
				Proportion Indebted			
All Students	71	68	74	53	78	59	64
Single	64	61	67	47	72	50	56
Married - no children	79	76	78	70	83	61	70
Married - with children	85	78	84	73	88	72	89
				Average Amount of Debt			
All Students	$10,580	$ 8,840	$11,860	$ 4,570	$10,280	$11,600	$ 7,490
Single	8,710	6,790	8,660	3,540	8,750	5,430	5,830
Married - no children	11,590	10,200	12,200	5,900	10,740	15,570	8,500
Married - with children	14,200	14,060	17,400	8,630	13,710	18,190	10,400

1/ Data not available for students of allopathic medicine.

Table 28: Proportion of Health Professions Students Currently Indebted and Average Amount of Debt by Year in Program: School Year 1976-77[1/]

Year in Program	Dentistry	Optometry	Osteopathy	Pharmacy[2/]	Podiatry	Public Health	Veterinary Medicine
			Proportion Indebted				
All Students	71	68	74	53	78	59	64
First Year of Program	61	54	64	-	69	54	52
Second Year of Program	78	72	77	46	83	59	67
Third Year of Program	73	72	81	53	86	66	71
Last Years of Program	76	76	79	61	78	65	74
			Average Amount of Debt				
All Students	$10,580	$ 8,840	$11,860	$ 4,570	$10,280	$11,600	$ 7,490
First Year of Program	7,200	6,560	8,520	-	7,710	11,790	5,890
Second Year of Program	10,650	7,310	11,640	3,700	8,460	10,440	6,790
Third Year of Program	12,840	11,030	13,140	4,810	13,970	10,640	7,900
Last Years of Program	12,940	10,300	15,540	5,100	12,340	15,530	9,500

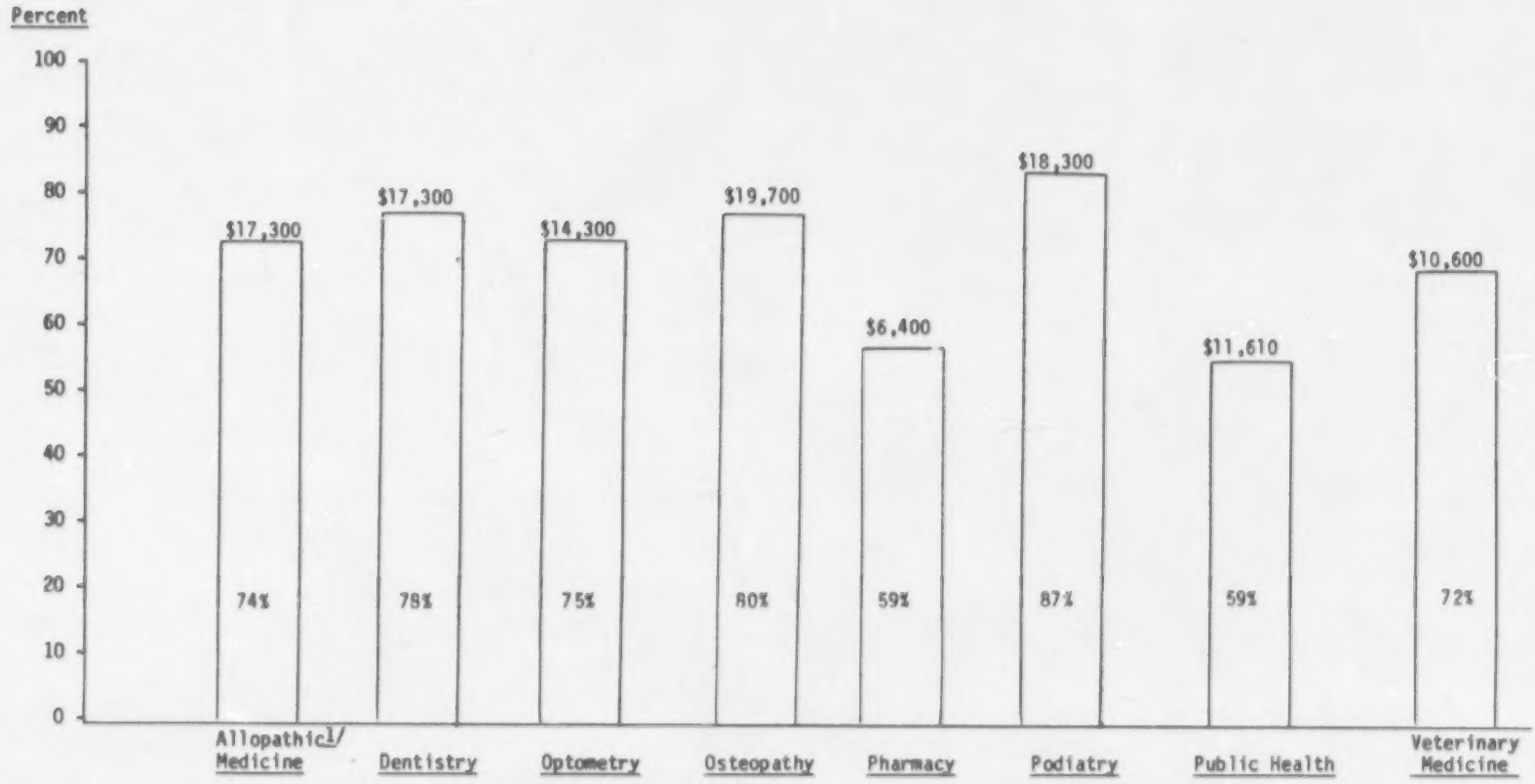
1/ Data not available for students of allopathic medicine. Preliminary report of Studies of Medical Student Finances, 1977-78 reports that in June 1978 the average current debt of medical students was $10,450 for all students, $6,570 for first year students, $10,530 for intermediate year students, and $13,800 for final year students.

2/ Only pharmacy students in last three years of program were surveyed.

Anticipated Debt

As a final determination of indebtedness status, health professions students were asked to estimate the amount of debt they expected to accrue by the time they graduated from professional school. The proportions of students anticipating future indebtedness and their estimated debts are shown in Figure 7. Although only a small proportion of students in each health profession anticipated going from no current debts to some debts by the time they graduated, there was a significant difference between the average amounts of current and anticipated indebtedness. Eighty-seven percent of podiatry and 80 percent of osteopathy students projected that they would have a debt of $18,000 by the time they graduated from professional school. This was the highest debt projected by health professions students. The projected future indebtedness of podiatry and osteopathic students could reflect the fact that they also reported the highest average annual total expenditures with approximately three-fourths of them reporting that they were already in debt as of June 1977.

Figure 7: Proportion of Health Professions Students Who Anticipated Being in Debt Upon Graduation and Average Amount of Debt Reported in School Year 1976-77[1/]



1/ Reported June 1978: Studies of Medical Student Financing 1977-78, preliminary report, Association of American Medical Colleges.

Summary of Indebtedness

Most health professions students predicted that, on the average, by the time they had planned to complete their education their debt would be about 2 1/2 times as large as the debt they had when they entered professional school. Public health students were the only group who did not foresee an increase in the amount of indebtedness. They reported that, on the average, their debts would actually decrease by the time they completed professional school. This decrease in indebtedness reflects the fact that new debtors projected a much lower debt at graduation than those students who were in debt prior to entering public health school. Another factor contributing to their lower debts might be the fact that most public health students finance their education with nonrefundable funds.

A comparison of reported debts by students of public and private schools shows that both groups of students reported similar prior debts, but they had very different current and anticipated debts. Health professions students attending private schools expected to owe larger amounts than public school students. This could be expected since students attending private schools reported higher total annual expenditures and relied more heavily on refundable sources for their income. Table 29 presents the average amount of prior debt, current debt, and anticipated debt for health professions students by school control.

Table 29: Average Amount of Prior Debt, Current Debt, and Anticipated Debt of Health Professions Students by School Control, Reported June 1977[1/]

Debt Type & School Control	Dentistry	Optometry	Osteopathy	Pharmacy	Podiatry	Public Health	Veterinary Medicine
				Average Debt			
All Students							
Prior Debt[3/]	$ 6,520	$ 5,590	$ 7,080	$ 4,190	$ 6,220	$12,290	$ 5,760
Current Debt[4/]	10,580	8,840	11,860	4,570	10,280	11,550	7,490
Anticipated Debt[5/]	17,300	14,300	19,700	6,400	18,330	11,610	10,600
Public School Students							
Prior Debt	$ 6,480	$ 5,960	$ 5,820	$ 4,160	$ - [2/]	$12,320	$ 5,580
Current Debt	10,130	7,720	7,780	4,170	-	11,710	7,140
Anticipated Debt	15,410	11,540	14,830	5,400	-	11,550	9,960
Private School Students							
Prior Debt	$ 6,600	$ 5,400	$ 7,380	$ 4,326	$ 6,220	$12,120	$ 9,540
Current Debt	11,360	9,410	12,680	5,220	10,280	11,100	13,570
Anticipated Debt	20,650	15,800	20,790	7,960	18,330	11,790	22,860

1/ Data not available for students of allopathic medicine.
2/ There are no public schools of podiatry.
3/ Includes financial obligations for preprofessional school educational expenditures, automobile loans, medical expenses, and other items.
4/ Total unpaid debts as of June 1977.
5/ Estimate of total debt by graduation.

VI. Conclusion

The costs of obtaining a health profession education varied widely among the seven health professions which were surveyed during the 1976-77 school year. The health professions schools which participated in the survey were dentistry, optometry, osteopathy, pharmacy, podiatry, public health, and veterinary medicine. Although students of allopathic medicine were not included in the 1977 survey, estimates of their 1976-77 school year expenditures were included in the analysis presented in this publication. Of all health professions students who were surveyed, podiatry and osteopathy students reported the highest average annual expenditures of $11,720 and $11,070, respectively. On the other hand, pharmacy students reported average annual expenditures of $6,740 which was the lowest average amount reported by all students.

Relevant factors explaining the differences in annual expenditures by the health professions students were control or affiliation of the school attended by the students, i.e., public or private, and the marital status of the student. In each health profession, students attending private schools reported average school expenses which were about 150 percent greater than those reported by students in public schools. Of all students attending private schools, veterinary students reported the highest average annual school expenses, $5,420, and public health students reported the lowest average amount, $3,430. Of all students attending public schools, dental students reported the highest average annual school

expenses, $3,050, and pharmacy students reported spending the lowest amount, $1,000. As expected, married and single students in each health profession reported spending similar amounts on school expenses; but married students, especially those with children, reported that they spent more on food, lodging, and other items tnan did single students. Of all the health professions students, less than one-fourth of the pharmacy students were married and over half of the osteopathy, podiatry, and public health students were married. Thus their expenditures on food, lodging, and other items were greater.

Most students financed their education with income obtained from nonrefundable sources. Students most frequently reported that they received the largest proportion of their income from their own earnings and savings and from contributions made by their spouses and parents. Of all the health professions students, more of the pharmacy and public health students were employed, 49 and 48 percent respectively; and they worked more hours per week, 17 and 20 hours, respectively, than students of the other health professions. Public health students were least likely of any group of students to rely on refundable sources for their income. On the average, they financed only 4 percent of their educational costs with funds obtained through loans. In contrast, students of podiatry and dentistry financed 31 percent and 27 percent, respectively, of their education with funds obtained through loans.

Approximately 40 percent of all health professions students reported that they were in debt prior to entering professional school. The average debt reported by these students was $7,000. Of those students who reported prior indebtedness, most were in debt because of preprofessional school educational expenditures. About 67 percent of all students reported having debts at the time of the survey, with the average current debt being $9,500. Upperclassmen reported higher average amounts of current indebtedness than lowerclassmen; more married students, both with and without children, reported having current debts than did single students. Most health professions students predicted that by the time they graduated their debt would be 2 1/2 times as large as the debt they had upon entering professional school.

Appendix A

1976-77 Survey Instrument
Study of Health Professions Student Financing

This appendix contains copies of the cover letter and questionnaire sent to the health professions students who participated in the survey. Two first pages of the questionnaire are given in this appendix because the first page of the questionnaire sent to pharmacy students differed from that sent to other health professions students. Pharmacy schools have a unique academic schedule. Pharmacy schools offer a 3-year, 4-year, or 5-year program. Students are admitted to the 3-year program after completing 2 years of undergraduate school; to the 4-year program after completing 1 year of undergraduate school; and to the 5-year program after completing high school. The last 3 years of pharmacy programs are considered to be the professional training period; therefore, only students enrolled in the last 3 years of their training were surveyed.

Audits & Surveys, Inc.
ONE PARK AVENUE · NEW YORK, N. Y. 10016

Contract No. 231-75-0015
O.M.B. No. 68 575053
Approval Expires June 30, 1977

DATE _____

STUDENT'S NAME _____

ADDRESS _____

CITY _____ STATE _____

UNIVERSITY _____

SCHOOL _____

This study is being conducted by Audits & Surveys, Inc., under the sponsorship of the Bureau of Health Manpower (BHM), of the Department of Health, Education, and Welfare (DHEW). The information derived from this study will be used by BHM in preparing recommendations designed to further implement new programs and policies and to provide evaluation of current programs in the area of Federal financial assistance to students in the health professions. It is, therefore, important to the well-being of current, as well as future health profession students, that you provide the information requested as fully and as accurately as possible.

Your responses to this questionnaire are voluntary and you need not respond to any questions you may object to. The data is for statistical purposes only and your responses will be kept confidential. The findings will be aggregated so that it will not be possible to identify individual respondents. No names or addresses will be put onto computer tape or related to the data in any fashion. The data the Government will receive will not contain individual names.

This front sheet containing your name will be removed to insure that your responses will remain completely confidential and anonymous. Your name appears only to aid the project staff in checking in returned questionnaires and to forward additional questionnaires when needed.

When you have completed the questionnaire, please return it in the enclosed envelope. No postage is necessary. Also, mail the enclosed pre-addressed post card indicating that you have returned your completed questionnaire.

We thank you in advance for your cooperation. If you have any questions concerning how to answer the questionnaire, please call Mr. James Dutka, collect, at (212) 689-9400 on extension 311. Mr. Dutka will help answer any question you may have.

(1-5) 6 - 1

PHARMACY

INSTRUCTIONS: Please place an "X" in the appropriate answer boxes or fill in the space with the appropriate answer. Please answer all questions as fully and as accurately as possible.

1. What degree(s) do you expect to receive from the professional program in which you are currently enrolled?

   1. _____ 7-
   2. _____ 8-
   3. _____ 9-

2. What academic degree(s), if any, do you currently have?

   1. _____ 10-
   2. _____ 11-
   3. _____ 12-

   None ☐ 12-0

3. In what academic year of your present program are you now enrolled?

Last academic year	☐ 13-1	*CONTINUE WITH Q.4*
Next to last academic year	☐ -2	
Third from last academic year	☐ -3	
Other academic year	☐ -4	*PLEASE DISCONTINUE QUESTIONNAIRE AND RETURN IN ENVELOPE PROVIDED. THANK YOU.*

4. How old were you on your last birthday? Years _____ (15-16) SKIP COL. 14

5. What is your sex?

   Male ☐ 17-1

   Female ☐ -2

(1-5) 6 - 1

INSTRUCTIONS: Please place an "X" in the appropriate answer boxes or fill in the space with the appropriate answer. Please answer all questions as fully and as accurately as possible.

1. What degree(s) do you expect to receive from the professional program in which you are currently enrolled?

1. _____ 7-
2. _____ 8-
3. _____ 9-

2. What academic degree(s), if any, do you currently have?

1. _____ 10-
2. _____ 11-
3. _____ 12-

None ☐ 12-0

3a. What is the length, in academic years, of the complete professional school program in which you are currently enrolled? (An academic year is defined as starting on July 1 of a year and ending on June 30 of the following year.)

One academic year	☐	13-1
Two academic years	☐	-2
Three academic years	☐	-3
Four academic years	☐	-4
Five academic years	☐	-5
Six academic years	☐	-6

3b. In what academic year of this program are you now enrolled?

First academic year	☐	14-1
Second academic year	☐	-2
Third academic year	☐	-3
Fourth academic year	☐	-4
Fifth academic year	☐	-5
Sixth academic year	☐	-6

4. How old were you on your last birthday?

Years _____ (15-16)

5. What is your sex?

Male ☐ 17-1

Female ☐ -2

6a. What is your racial background? Do you consider yourself to be...

- American Indian or Alaskan Native ☐ 18-1
- Asian or Pacific Islander
  - Chinese ☐ -2
  - Japanese ☐ -3
  - Other (SPECIFY) _____ 18-
- Black/Negro ☐ -4
- Caucasian/White ☐ -5

6b. Is your ethnic heritage Hispanic?

Yes ☐ 19-1 *ANSWER Q.6c*
No ☐ -2 *GO TO Q.7*

IF "YES" TO Q.6b, ANSWER Q.6c

6c. Of what Hispanic group are you a member?

- Cuban ☐ 20-1
- Mexican ☐ -2
- Puerto Rican ☐ -3
- South American ☐ -4
- Other (SPECIFY) _____ 20-

7. What is your marital status?

- Single (never married) ☐ 21-1
- Married ☐ -2
- Widowed, Divorced, Separated ☐ -3

8a. Excluding yourself, how many financial dependents do you, yourself have?

_____ (22) *IF "ONE OR MORE", ANSWER Q.8b AND Q.8c. IF "NONE", GO TO Q.9*

IF "ONE OR MORE" IN Q.8a, ANSWER Q'S 8b AND 8c

8b. How many of these dependents are less than 18 years of age? Number _____ (23)

8c. How many of these dependents are 18 years of age or older? Number _____ (24)

9. What is your citizenship status?

- United States Citizen ☐ 25-1
- Not a U.S. Citizen
  - Permanent Resident ☐ -2
  - Temporary Resident or Student Visa ☐ -3

10a. In what country have you lived the longest?

United States ☐ 26-1 *IF "U.S.", ANSWER Q.10b*

Other (SPECIFY COUNTRY) *IF "OTHER", GO TO Q.11*

_____ (26-27)

IF LIVED IN "UNITED STATES" THE LONGEST, ANSWER Q.10b

10b. Did you live the longest in a ...

Large City (population 500,000 or more)	☐ 28-1
Suburb of a Large City	☐ -2
City of Moderate Size (population 50,000-499,999)	☐ -3
Suburb of a Moderately Sized City	☐ -4
Small City (10,000-49,999 population)	☐ -5
Town (population less than 10,000)	☐ -6
Farm, Rural or Unincorporated area	☐ -7

Q'S 11-14 REFER TO YOUR PARENTS. IF YOUR PARENTS ARE NOT CURRENTLY MARRIED, ANSWER THESE QUESTIONS ABOUT THE PEOPLE WITH WHOM YOU LIVED THE LONGEST.

11. What is the highest grade of school completed by your father, your mother, and if you are currently married, your spouse (answer even if your parents are deceased)?

	YOUR FATHER	YOUR MOTHER	YOUR SPOUSE (IF CURRENTLY MARRIED)
Completed Grade School or less	☐ 29-1	☐ 30-1	☐ 31-1
Some High School	☐ -2	☐ -2	☐ -2
Completed High School	☐ -3	☐ -3	☐ -3
Specialized Business or Technical Training	☐ -4	☐ -4	☐ -4
Some College	☐ -5	☐ -5	☐ -5
Completed College	☐ -6	☐ -6	☐ -6
Some Graduate or Professional School	☐ -7	☐ -7	☐ -7
Completed Graduate or Professional School	☐ -8	☐ -8	☐ -8
Other (PLEASE SPECIFY) _____	☐ 29-	☐ 30-	☐ 31-

12. What is the occupation of your father, your mother and, if you are currently married, your spouse? If either of your parents or your spouse are Retired or Deceased, mark in the space provided and indicate their last major occupation.

	FATHER	MOTHER	YOUR SPOUSE (IF CURRENTLY MARRIED)
Retired	☐ 32-1	☐ 38-1	☐ 44-1
Deceased	☐ -2	☐ -2	☐ -2
Physician	☐ -3	☐ -3	☐ -3
Osteopath	☐ -4	☐ -4	☐ -4
Dentist	☐ -5	☐ -5	☐ -5
Optometrist	☐ -6	☐ -6	☐ -6
Pharmacist	☐ -7	☐ -7	☐ -7
Podiatrist	☐ -8	☐ -8	☐ -8
Veterinarian	☐ -9	☐ -9	☐ -9
Registered Nurse	☐ -0	☐ -0	☐ -0
Public Health Worker (SPECIFY)			
	_____ 33-	_____ 39-	_____ 45-
Other Health Worker (SPECIFY)			
	_____ 34-	_____ 40-	_____ 46-
Other Professional Worker (SPECIFY) (e.g., Clergyman, Engineer, etc.)	_____ 35-	_____ 41-	_____ 47-
Owner, Manager, Proprietor	☐ 36-1	☐ 42-1	☐ 48-1
Clerical/Office/Sales Worker	☐ -2	☐ -2	☐ -2
Craftsman, Skilled Worker, Foreman	☐ -3	☐ -3	☐ -3
Unskilled Worker	☐ -4	☐ -4	☐ -4
Farmer, Farm Worker	☐ -5	☐ -5	☐ -5
Homemaker/Housewife	☐ -6	☐ -6	☐ -6
Other Occupation (SPECIFY)			
	_____ 37-	_____ 43-	_____ 49-

IF BOTH PARENTS ARE DECEASED, GO TO Q.15

13. Excluding your parents themselves, how many persons are dependent on your parents for at least one-half of their financial support?

Number of persons _____ (50)

14. What is your best estimate of your parents total personal annual income for calendar year 1976 (before taxes)?

Less than $5,000	☐ 51-1
$5,000 - $9,999	☐ -2
$10,000 - $14,999	☐ -3
$15,000 - $19,999	☐ -4
$20,000 - $24,999	☐ -5
$25,000 - $49,999	☐ -6
$50,000 or more	☐ -7

15. How many brothers, half-brothers, sisters and half-sisters do you have?

Number of Brothers and Half Brothers _____(52)

Number of Sisters and Half Sisters _____(53)

16a. Are you employed for pay during the current school term?

Yes ☐ 54-1 *ANSWER Q.16b*
No ☐ -2 *GO TO Q.17*

IF "YES" TO Q.16a, ANSWER Q.16b

16b. On the average, how many hours per week are you employed?

Hours Per Week _____(55-56)

17. Where will you live for the major part of your time in school during the current academic year (July 1976 to June 1977)?

School Dormitory	☐ 57-1
School-owned or Controlled Apartment	☐ -2
Other Apartment or House	☐ -3
Club, Fraternity, or Sorority House	☐ -4
Room in Private Home, Rooming or Boarding House	☐ -5
Parents' or Relatives' Home	☐ -6
Other (SPECIFY)	

_____ 58-

18a. Did you apply for financial aid (e.g. grant, scholarship, loan or any repayable or non-repayable financial help) for the current school year through your professional school?

Yes ☐ 59-1
No ☐ -2

18b. Did you apply for financial aid for the current school year through sources other than your professional school?

Yes ☐ 60-1
No ☐ -2

19a. Are you aware of the availability of financial assistance from the Federal Health Professions Student Loan and Scholarship programs?

Yes ☐ 61-1 *ANSWER Q.19b*

No ☐ -2 *GO TO Q.20a*

IF "YES" TO Q.19a, ANSWER Q.19b

19b. When did you become aware of the Federal Health Professions Student Loan and Scholarship programs? Was it...

Before applying for admission to a health professional school? ☐ 62-1

After applying for admission to a health professional school? ☐ -2

19c. Please indicate in the appropriate space below whether or not you applied for financial assistance this school year (1976-77) from any of the sources listed. For each source to which you did apply, indicate the present status of your application.

SOURCE	DID NOT APPLY	APPLIED ACCEPTED	APPLIED REJECTED	APPLIED PENDING
Basic Educational Opportunity Grant	☐ 63-1	☐ -2	☐ -3	☐ -4
Supplemental Educational Opportunity Grant	☐ 64-1	☐ -2	☐ -3	☐ -4
College Work-Study Program	☐ 65-1	☐ -2	☐ -3	☐ -4
Federal Health Professions Scholarship	☐ 66-1	☐ -2	☐ -3	☐ -4
Federal Health Professions Loan	☐ 67-1	☐ -2	☐ -3	☐ -4
Guaranteed Student Loan (where the bank is the authorized lender)	☐ 68-1	☐ -2	☐ -3	☐ -4
Guaranteed Student Loan (where the school is the authorized lender)	☐ 69-1	☐ -2	☐ -3	☐ -4
National Direct Student Loan	☐ 70-1	☐ -2	☐ -3	☐ -4

20a. *Questions 20a-24 ask for many kinds of personal assets you have and expenses you might incur or have incurred while a student in this professional school. Information in this section, as indicated to you earlier, will be used only to summarize the resources which are currently available to health professions students for education and living expenses. Because your answers regarding resources, expenses and indebtedness are critical to the validity of this survey, please estimate as accurately as you can the amounts of money you receive or expect to receive from any source during the current year (July 1, 1976 to June 30, 1977). You may want to consult bills, receipts, diaries, files, ledgers, bank statements, check stubs, income tax forms, stocks, savings accounts and any other written record of your assets and expenses that is available. Again, let us assure you that this information will be treated in confidence and no personal data will be revealed.*

Show below the amounts of money which have become or will be available to you to meet your expenses in the year beginning July 1, 1976 and ending June 30, 1977. Please indicate in whole dollars. No source should be indicated more than once. If you find a more appropriate category than one you have already written in, cross the wrong one out and rewrite the amount of money in the correct space. The list continues through questions 20b, 20c and 20d.

Earnings, Income and Gifts Before Taxes (July 1, 1976 to June 30, 1977)	6 - 2
Your earnings from employment	$ .00 (7-9)
Armed Forces active duty or reserve pay	$ .00 (10-12)
Spouse's earnings/income	$ .00 (13-15)
Income from savings, trusts, stocks, bonds, investments (Yours and Spouse's)	$ .00 (16-18)
Gifts	$ .00 (19-21)
Parents' and relatives' contributions	$ .00 (22-24)
Spouse's parents' and/or relatives' contributions	$ .00 (25-27)
Other gifts (SPECIFY SOURCE)	
_____ 28-	$ .00 (30-32)
_____ 29-	$ .00 (33-35)

20b. Scholarships, Grants and Other Non-Repayable Funds
(July 1, 1976 to June 30, 1977)

Federal Health Professions Scholarship Program	$ .00	(36-38)
Robert Wood Johnson Scholarship	$ .00	(39-41)
Other Foundation Scholarships (SPECIFY) _____ 42-	$ .00	(43-45)
Grant(s) from school funds (including tuition remission or waiver)	$ .00	(46-48)
Veterans Benefits	$ .00	(49-51)
Public Health Service Scholarship	$ .00	(52-54)
Physicians Shortage Area Scholarship	$ .00	(55-57)
Armed Forces Health Professions Scholarship Program	$ .00	(58-60)
NIH/PHS supported research fellowship or traineeship, research grant, clinical fellowship, etc.	$ .00	(61-63)
State Government Scholarship	$ .00	(64-66)
State Professional Society Scholarship	$ .00	(67-69)
National Medical Fellowship	$ .00	(70-72)
Other (SPECIFY SOURCE) _____ 76-	$ .00	(73-75)
_____ 77-	$ .00	(78-80)

6 - 3

20c. Loans and Other Repayable Funds
(July 1, 1976 to June 30, 1977)

Federal Health Professions Direct Student Loan	$ .00	(7-9)
National Direct Students Loan/National Defense	$ .00	(10-12)
Office of Education Student Loan	$ .00	(13-15)
Robert Wood Johnson Loan	$ .00	(16-18)
Guaranteed School Loan (where the school is the authorized lender)	$ .00	(19-21)
School Loan (not guaranteed by State or Federal Government)	$ .00	(22-24)
Private Bank Loan (not guaranteed by State or Federal Government)	$ .00	(25-27)
Guaranteed (insured) student bank loan	$ .00	(28-30)
Loan From Private Financial Source (e.g., insurance company)	$ .00	(31-33)
Other Professional Foundation Loan	$ .00	(34-36)
Family Loan	$ .00	(37-39)
Personal Loan (from an individual other than family)	$ .00	(40-42)
Other (SPECIFY SOURCE) _____ 46-	$ .00	(43-45)
_____ 47-	$ .00	(48-50)

20d. Other Resources
(July 1, 1976 to June 30, 1977)

Any other resources you have available for meeting professional school expenses for the 1976-1977 school year. (SPECIFY SOURCE)

_____ 51- $ _____.00 (53-55)

_____ 52- $ _____.00 (56-58)

6 - 4

Please estimate as accurately as you can, the total amount (in whole dollars) that you have spent and expect to spend for yourself and your dependents during the year beginning July 1, 1976 and ending June 30, 1977.

	TOTAL YEARLY EXPENDITURE July 1, 1976-June 30, 1977	
21a. Education Expenses (Your Own)		
Tuition and Fees	$ _____.00	(7-9)
Books and Supplies	$ _____.00	(10-12)
Instruments and Equipment	$ _____.00	(13-15)
Other Educational Expenses e.g. Clinical Clerkship (SPECIFY) _____ 19-	$ _____.00	(16-18)
21b. Other Expenses (Yours and Dependents)		
Lodging (rent, house payment, home maintenance, etc.)	$ _____.00	(20-22)
Food (in home, out of home)	$ _____.00	(23-25)
Clothing	$ _____.00	(26-28)
Health Care	$ _____.00	(29-31)
Insurance (car, household, life, medical)	$ _____.00	(32-34)
Transportation (including expenses for auto operation)	$ _____.00	(35-37)
Major Purchases from July 1, 1976 to June 30, 1977 ONLY. If any of these have been financed include only the amount you will pay for during the academic year July 1, 1976 - June 30, 1977 (e.g. auto, furniture etc.).	$ _____.00	(38-40)
Spouse's Education Expenses	$ _____.00	(41-43)
Other Expenses (daycare, pocket money, taxes, vacations, entertainment, general leisure time expenses, repayment of loans for items other than above).	$ _____.00	(44-46)

Please estimate as accurately as you can your total indebtedness.

22. Total Indebtedness Upon Entrance to Professional School $ _____.00 (47-49)

    A. Indebtedness for prior Educational Expenses $ _____.00 (50-52)

    B. Home Loan Mortgage $ _____.00 (53-55)

    C. Indebtedness for Other Expenses $ _____.00 (56-58)

23. Current Indebtedness (as of July 1, 1976) (Total owed prior to professional school and during professional school including auto loans, school loans, mortgage, etc.) $ _____.00 (59-61)

24. Anticipated indebtedness you expect to owe by graduation based on current school and other expenses. $ _____.00 (62-64)

25. Please write any comments or ideas you have about methods and programs for financing the education of health professionals in the space below.

_____ 65-

_____ 66-

_____ 67-

_____

_____

_____

_____

_____

_____

THANK YOU FOR YOUR COOPERATION.

PLEASE WRITE IN THE NAME OF THE UNIVERSITY YOU ARE ATTENDING (SAME AS PAGE 1)

_____ (68-70)

Appendix B

Health Professions Schools Participating
in 1976-77 Survey by State

Health Professions Schools Participating in
1976-77 Survey by State

DENTISTRY

State	School
California	Loma Linda University
	University of California at Los Angeles
	University of California at San Francisco
	University of Southern California
Colorado	University of Colorado
Georgia	Medical College of Georgia
Kentucky	University of Louisville
Missouri	Washington University
Nebraska	University of Nebraska at Lincoln
Ohio	Ohio State University
Pennsylvania	Temple University
	University of Pittsburgh
Tennessee	Meharry Medical
Texas	Baylor College
	University of Texas at Houston
Wisconsin	Marquette University
District of Columbia	Howard University
Puerto Rico	University of Puerto Rico

OPTOMETRY

State	School
Alabama	University of Alabama
California	Southern California College University of California at Berkeley
Illinois	Illinois College
Indiana	Indiana University
Massachusetts	New England College
New York	State University of New York
Ohio	Ohio State University
Oregon	Pacific University
Pennsylvania	Pennsylvania College
Tennessee	Southern College of Optometry
Texas	University of Houston

OSTEOPATHY

State	School
Illinois	Chicago College of Osteopathic Medicine
Kansas	Kansas City College of Osteopathic Medicine
Michigan	Michigan State University
Missouri	Kirksville College of Osteopathy
Ohio	Ohio University
Oklahoma	Oklahoma State University
Pennsylvania	Philadelphia College of Osteopathy Medicine
Texas	Texas College of Osteopathic Medicine
West Virginia	West Virginia School of Osteopathy

PHARMACY

State	School
Alabama	Samford University
California	University of California at San Francisco University of the Pacific
Florida	Florida A & M University
Georgia	Mercer University
Indiana	Butler University
Iowa	Drake
Kentucky	University of Kentucky
Massachusetts	Northeastern
Minnesota	University of Minnesota
Missouri	University of Missouri
New Mexico	University of New Mexico
New York	Long Island University (Arnold & Marie Schwartz)
North Carolina	University of North Carolina at Chapel Hill
Ohio	Ohio Northern
Oregon	Oregon State
South Carolina	Medical University of South Carolina
Tennessee	University of Tennessee
Texas	Texas Southern University University of Houston University of Texas at Austin
Utah	University of Utah
Washington	University of Washington
Puerto Rico	University of Puerto Rico

PODIATRY

State	School
California	California College of Podiatric Medicine
Illinois	Illinois College of Podiatric Medicine
New York	New York College of Podiatric Medicine
Ohio	Ohio College of Podiatric Medicine
Pennsylvania	Pennsylvania College of Podiatric Medicine

PUBLIC HEALTH

State	School
California	Loma Linda University University of California at Berkeley University of California at Los Angeles
Hawaii	University of Hawaii
Louisiana	Tulane University
Maryland	Johns Hopkins University
Massachusetts	Harvard University University of Massachusetts
Michigan	University of Michigan
Minnesota	University of Minnesota
New York	Columbia University
North Carolina	University of North Carolina at Chapel Hill
Oklahoma	University of Oklahoma
Pennsylvania	University of Pittsburgh
Texas	University of Texas at Houston
Washington	University of Washington

VETERINARY MEDICINE

State	School
Alabama	Auburn University Tuskegee Institute
California	University of California at Davis
Colorado	Colorado State University
Florida	University of Florida
Georgia	University of Georgia
Illinois	University of Illinois
Indiana	Purdue University
Iowa	Iowa State University
Kansas	Kansas State University
Louisiana	Louisiana State University
Minnesota	University of Minnesota
New York	Cornell University
Ohio	Ohio State University
Oklahoma	Oklahoma State University
Pennsylvania	University of Pennsylvania
Tennessee	University of Tennessee
Texas	Texas A & M University
Washington	Washington State University

Appendix C

Procedure for Estimating Expenditure Data by Students of Allopathic Medicine for School Year 1976-77

Procedure For Estimating Expenditure Data For Students of Allopathic Medicine

The Association of American Medical Schools surveyed students of allopathic medicine in 1975 and in 1978 to gather information on related costs of obtaining their education and resources used to finance that education. The results of the 1975 survey were published in a series of four reports, Studies of Medical Student Financing,[1/] by the Bureau of Health Manpower, Health Resources Administration, Department of Health, Education, and Welfare. The results of the 1978 survey have not been published, but in October 1979 the Association of American Medical Colleges, Department of Academic Affairs, Division of Student Studies, prepared a brief preliminary cursory report[2/] on medical students' expenses, income, and indebtedness. The 1975 and 1978 surveys provided financial information before and after school year 1976-77, the year in which all other health professions students were surveyed. Therefore, school year 1976-77 expenditure data had to be estimated for allopathic students to afford comparison with the other health professions.

The procedure used to estimate 1976-77 expenditure data by students of allopathic medicine was a four-step process. First, the 1975 and 1978 survey data were deflated to constant dollars. Since the data were for expenditures during school years 1974-75 and 1977-78, the consumer price

1/ Studies in Series of Medical Student Financing are: Survey of How Medical Students Finance Their Education, 1974-75 (HRA) 76-94, Medical Student Indebtedness and Career Plans, 1974-75 (HRA) 77-21, Medical Student Finances and Personal Characteristics, 1974-75 (HRA) 77-53, Medical Student Financing and Institutional Characteristics, 1974-75 (HRA) 77-54.

2/ Studies of Medical Student Financing, 1977-78, preliminary report of October 1978, Association of American Medical Colleges, Washington, D.C.

index for all items (CPIA) for the years 1974 and 1977 were used to express the survey data in real terms. Second, a compound annual growth rate was computed for the increase in expenditures between 1974 and 1977. Third, the growth rate computed in step two was applied to expenditures in the base year to estimate real expenditures in 1976. Fourth, the estimated real expenditures for 1976 were converted to current dollars by allowing for inflation occurring between 1974 and 1976.

The table appearing below presents the various reported expenditures by medical students in constant 1974 dollars for the years 1974-75 and 1977-78. Also given in this table are the annual growth rates which were computed in step two of the above estimation process. These growth rates were applied to expenditure data for all students, for all students by marital status, year in program, and geographic division.

Expenditures By Medical Students For
School Years 1974-75 and 1977-78 in Constant Dollars,
Base Year 1974, and Annual Growth Rate

	1974-75 Expenditures	1977-78 Expenditures	Annual Growth Rate
Total Expenses	$7,085	$7,536	1.021
School	2,360	2,995	1.082
Board	1,089	1,000	.98
Lodging	1,619	1,589	.995
Other	2,017	1,952	.99

*U.S. GOVERNMENT PRINTING OFFICE: 1980-0-629-409/2900